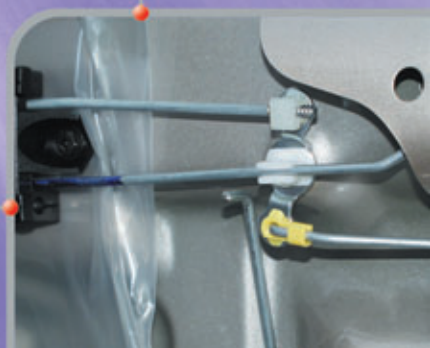
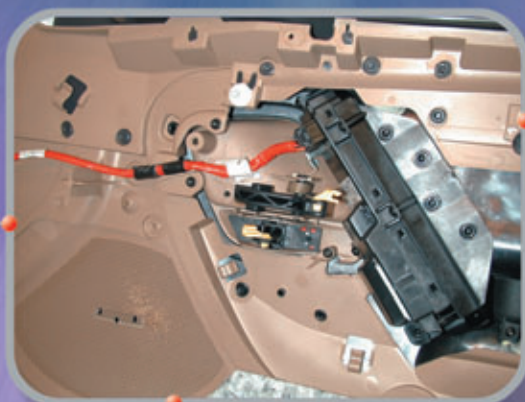
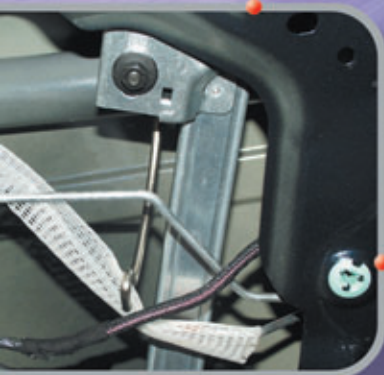
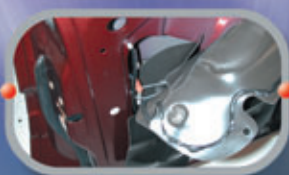
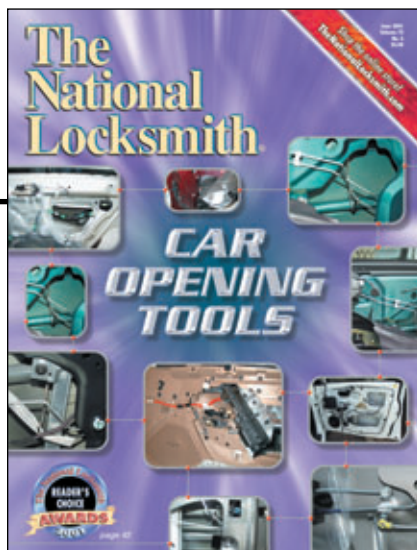


The National Locksmith®

CAR OPENING TOOLS



On The Cover...



With the advancements of door panel design, construction and integration of components, specialty opening products and information is more critical than ever.

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COMMENTARY



Hey Mr. Postman...

*I*t sounded like such a simple job.

Take gobs of back issues and put them on CD ROM for easy use by locksmiths. It *sounded* simple anyway. The reality is that the task took us about a year and a half to complete, but it yielded a five CD set containing TNL issues from 1988 to 1998, eleven years, and about 10,000 pages in all.

Now we're ready with the update!

You can add another CD to your collection with the 1999 & 2000 CD. This CD can be used to update your set if you already have the original collection. Or if you want, you can now buy the original collection which has been updated to include all issues between 1988 and 2000...all thirteen years, and about 12,000 pages. Or, if you prefer only to have the most recent issues, you can buy the 1999 & 2000 CD alone.

This one CD ROM contains about 2,000 pages of indexed articles, photos, codes, installations and instructions. You'll be able to key word search every issue, and an index has been created to allow for easy info look up.

See the ad on page 22 for more information.

*I*t's almost scary, but I realized recently that I have been on this job for eighteen years now. I guess what scares me is the realization that I'm old enough to have been doing *any* job for eighteen years!

But this job has been a particular pleasure for me. No, I'm not going anywhere, I'm reflecting on the fact that *The National Locksmith* can be found in finer locksmith business everywhere, and that now we're so much more than a monthly magazine.

The staff here produces the best, most informative material for you every month. And TheNationalLocksmith.com has fresh material appearing every day in our forums. Sometimes it even amazes me when I see locksmiths from around the world helping each other, posting photos and working through each other's problems.

We're in the midst of preparing for a new version of our catalog. The latest offerings appear now in the online store of our web site, but we're also doing a paper version. I have had the good fortune to work with some of the finest locksmith authors in the world, and together, we bring you books and software to save you time and make you money.

Not long ago, we did an informal survey in the forums at TheNationalLocksmith.com. I was surprised at the number of you who have fast internet connections. By that I mean more locksmiths than I thought have DSL or cable modem.

When it finally became available, I got cable modem at home and it blew me away so much compared to my 56K connection that we got DSL at work. Now, 56K seems painful to me by comparison.

These fast connections will ultimately have as much impact on us at the internet itself started having a few years ago. I believe there will come a point where it is no longer necessary to kill trees and pulp them into paper for mailing a magazine.

One of these days, maybe not now but soon, all magazines will come delivered to you in a fraction of a second, in living color on your screen. You'll still be able to print out what you want, I'm sure.

Regular mail is called Snail Mail for a reason!

Marc Goldberg



Have questions? Want free technical help?
Free Locksmith Forums!
www.TheNationalLocksmith.com

Marc Goldberg
Publisher

Mango's Message

For anyone who likes a bargain, traditional means of tracking one down can be quite time consuming, and often a matter of being in the right place at the right time. Thanks to the rise of online auctions, through your computer you can now be in the right place at the right time anywhere in the world. Locksmiths can take advantage of such auctions because more offerings of hardware, keyblanks, safe locks, key machines and tools, for example, are finding their way to the auctioning block.

A new auction site developed by Jimmy Benvenuti just for locksmiths is at: <http://www.locksmith-auction.com>. There you can buy and sell trade-related goods with others that speak your language. There isn't much there yet, but as more people learn about it, more and more items will become available for the bidding.



Getting Started

There are a couple of online auction styles you will encounter. The most common are like a virtual garage sale. The site itself simply serves as a venue for private individuals to hawk their wares through a uniform auction procedure. This type of auction offers a variety of goods, but reliability depends on the integrity of the seller.

Password Please

With any site you'll be asked to register to receive a user ID and password. The information you are required to provide varies from site to site. On the person-to-person sites, credit card information is not required as payment procedures are worked out independently between the buyer and the seller. If a site requires complete credit card information, ensure it is sent over a secure Internet connection.

Let the Bidding Begin

Now you're ready to place a bid. Unlike real-life auctions, the online type can last from a day to a week or more. The most common style is the "standard" auction, in which multiple bidders can bid on a single item or several identical items. When an auction starts, there is a minimum bid which is usually an absurdly low amount that

Sold!

To The Highest Bidder

changes fast. You then bid by clicking a button that increases the minimum bid by a preset amount. Your bid remains as the top bid until another user ups the ante.

A "reserve" auction is another style of auction, and it differs from a standard auction in that a seller is not obligated to sell the posted item until a certain price has been met.

Several sites use a process called "proxy bidding" in which you determine at the beginning the maximum amount you're willing to pay. From there, as others enter new top bids, your bid is automatically upped by the preset amount until your maximum is reached.

If your bid is the highest when the auction closes, then you've just bought the goods. There's no going back. It's considered extremely bad etiquette to back out after bidding closes. Once you've bought an item, you're stuck with it, so be sure to read the site's policies carefully before bidding.

Payment and Delivery

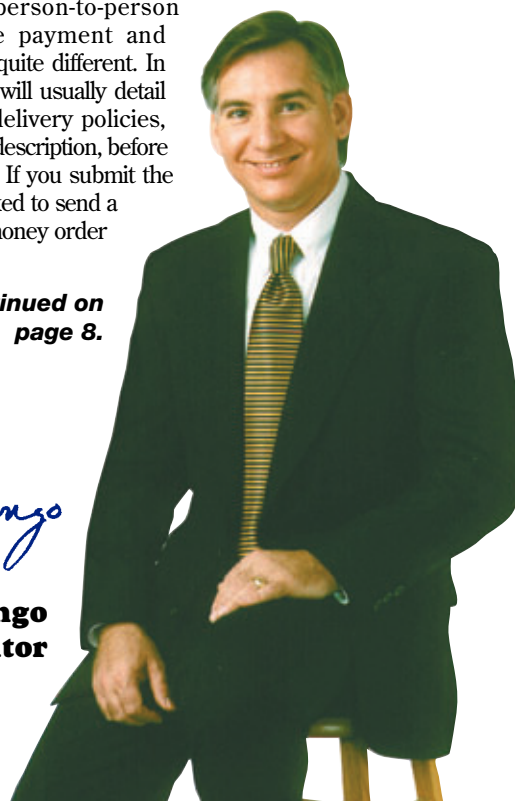
Now it's time to arrange payment and delivery. Policies vary from site to site, but you may be able to arrange overnight delivery and even purchase shipping insurance.

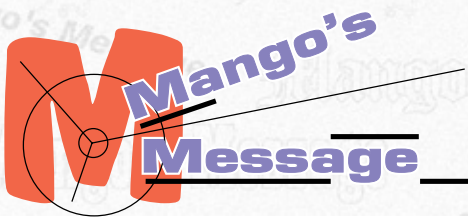
If you've submitted the winning bid on an item in a person-to-person auction, then the payment and delivery process is quite different. In this case, the seller will usually detail the payment and delivery policies, along with the item description, before bidding takes place. If you submit the top bid, you'll be asked to send a personal check or money order

**Continued on
page 8.**

A handwritten signature in blue ink that reads 'Greg Mango'.

**Greg Mango
Editor**





Continued from page 6

and your item will be mailed when payment is received.

Many sites have added escrow services to alleviate any trepidation buyers and sellers may have. Basically, escrow services operate in a similar fashion as bond merchants, where the money is deposited with the escrow provider, who then holds the money in an account until the goods are sent and received by the buyer. When the buyer agrees they have received, and are happy with the product bought, then the money is transferred to the seller.

Judge & Jury

In an effort to keep everybody honest, many sites employ a type of peer review process. eBay, for example, has devised a successful system called the Feedback Forum. This area allows buyers and sellers to indicate whether they've had a positive or negative experience when trading with someone else. These comments are reflected in a "feedback rating" number – the higher the number, the more trustworthy that user is, according to their history at eBay.

Since eBay requires all registered members – buyers or sellers – to provide full contact information, this keeps all transactions squarely in the virtual public eye.

Other sites have also adopted this policy, as well as encourage e-mail contact between the potential buyer and seller. If you are serious about bidding online, it pays to do your homework and read up on your potential merchant.

Tips for Smart Bidding

Knowing a few basic strategies and rules can make all the difference when bidding at online auctions. A big part of it is simply keeping your wits about you. The bidding process can be a little addictive, and you can easily end up spending more than you planned.

- Figure out the approximate retail value of the item you're bidding on. It makes no sense to shop online for something you could get cheaper locally.
- Place a bid early. If there's a tie when the auction closes, the early bid wins.
- Consider proxy bidding. Proxy bidding lets you establish a maximum amount you're willing to spend. The site will bid on your behalf, but only enough to outbid the previous high bidder. When your maximum is exceeded, you drop out.
- Note the auction's closing time. If the item is still within your price range, you may be able to sneak in a last-minute bid just as bidding closes. Auction sites usually keep bidding open five minutes after the last bid, even if that means going past the close. You'll often see a lot of furious bidding towards closing time for in-demand items.
- Talk to the seller if you have any questions about the item

you're bidding on. All sellers have e-mail addresses and most provide phone numbers.

- Always read the instructions and tutorials for the site you plan to use. They often include site-specific tips and tricks for getting the most out of the service.

Playing it safe

Despite the potential for abuse and scams, online auctions – even the person-to-person variety – are generally pretty safe. But you can still get scammed if you're not careful. Complaints about online auctions comprise nearly half the messages received by the US government's new Internet Fraud Complaint Center, a project aimed at collecting and analyzing consumer complaints about suspected fraud on the Net.

The center has been receiving an average of about 1000 complaints a week since it opened as a joint initiative of the US Federal Bureau of Investigation and the National White Collar Crime Center. The center collects the complaints at its Web site at <http://www.ifccfbi.gov>.

A Few Basic Tips

- Determine the seller's reputation. Most person-to-person sites have some sort of peer review system. Check with former buyers to see if the seller has a history of good or bad deal-making.
- Make sure the auction site you're using keeps accurate files on users. eBay requires members to have a traceable e-mail address.
 - In a person-to-person transaction, call your seller to cement the deal. Most sellers provide a phone number, and that's a good indication they're on the up-and-up. You can get a much better sense of a person on the phone than through e-mail.
 - Use the peer review system. This type of cooperative open-market policy only works if buyers provide feedback. If you had a good experience, say so. If you didn't, definitely say so!

The following is a list of the more popular auction sites to peruse. This is by no means all there is, and with a little searching you can find a number of niche auction sites.

BidFind: www.bidfind.com

eBay: www.ebay.com.au

Internet Auction List: www.internetauctionlist.com

OzEtrader: www.ozetrader.com.au

Ubid: www.ubid.com

Sold: www.sold.com.au

Yahoo: <http://au.auctions.yahoo.com>

Stuff: www.stuff.com.au

Treasured: www.treasured.com.au

If you have been searching for a hard to find item or want to sell something that is now just collecting dust, online auctions are a great place to start.

Going... Going... Gone!

Letters

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length.

Going Beyond the Call of Duty

I would like to tell you a little about my friend Don Smith. I first met Don over twenty years ago. I had recently retired from the Army and went to work as a security guard at Sharpes Army Depot in Lathrop, CA. When I was on the day shift, I would see this locksmith in a small RV type vehicle come to the base every day. One day I stopped the driver and asked him for a business card. After making friends with Don, I thought I'd like to become a locksmith. Don told me about the Foley Belsaw courses and I signed up, which started me in the direction of locksmithing.

Don was always there for me whenever I had questions or needed help. He was just that kind of a person.

One day a bunch of us fun loving guys decided to go river rafting, you know the rubber inner-tube type. Well we drove up to the foothills about 50 miles away. We left one of four vehicles at the point where we would raft to, and then we all drove up to where we launched our rafts. As I was the only one with shorts that

had pockets, I was asked to be the keeper of the keys. It was discovered at the end of the trip that I did not have key one! I had taken a spill off the tube and the keys went to the bottom of the river. A couple of us walked up the riverbank about a mile and used a rancher's phone. I called Don and told him of our plight. Don asked directions and said he would come and help us out.

Don came up and made keys for the four vehicles and told the guys to stop by and he would make any house keys they might need. I asked Don how much the bill was going to be, but he only said, "I'll let you know when you come by tomorrow."

The next day I went to Don's shop expecting to see a pretty hefty bill. I knew it was going to be pretty high because I did some calling around to see what the average charge would be. The trip was 100 miles round trip. I was pleasantly surprised when I tried to pay and Don told me to take my money and use it wisely to invest in my locksmithing education. Try as I might, he refused the money. I did apply the money towards education and now I own Accuracy Key Systems.

I have never forgotten how Don said that there is no other profession like locksmithing, where you can get so much gratification. He told me that locksmithing is a profession where you will be able to give back to the less fortunate.

Don has always been a giving person. This man is 74-years old and has Parkinson's, which makes it very difficult, to say the least, to work on locks, but it doesn't stop him. Locksmithing is Don's lifeblood. Don's wife is doing poorly and he has had several heart bypasses. It pains me to see what has happened to Don

E-MAIL YOUR VIEWS!

NATLLOCK@aol.com

Remember to include your first and last name.



over the years.

I know that I would appreciate anything that might be helpful to keep him going, and I know that he would appreciate it also.

There is a lot more to Don's story, but it would take too long to tell. Don is a good man, just like the many locksmiths I have met over the years. That is why I am so proud to be a locksmith.

Many locksmiths around the country give freely of their time and expertise in times of crisis and in most cases, never receive recognition. So, as a way of saying "Thanks" to Don Smith, BWD has sent a selection of its Premium Pack locks. In light of all the locksmith efforts that go unrecognized, BWD wishes to extend this same offer of appreciation to locksmiths from around the US and Canada. Simply send in your (or a friend's) story of "Going Beyond the Call of Duty." On a monthly basis, BWD will award a set of Premium Pack locks (approximately \$100.00 in value) to one qualifying locksmith. So, hurry and send your story and is possible a photograph of the helping hand hero to:

The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107
Attn: Editor

Continued from page 10

Going Beyond the Call of Duty
c/o The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107
Fax: (630) 837-2044
E-mail: natlock@aol.com

Part Timers vs. Full Timers

This is in response to a letter from Ed Hamm in the April issue of The National Locksmith magazine. I am very offended by his attitude, that most part time locksmiths are not professional. I have been a part timer for 20-years. And yes, I'm in it for the money, just like he is with his fulltime business! I charge market prices and do residential and automotive work. My rates are set based on the flat rate manual that The National Locksmith publishes. My appearance is very professional when I go to a job. I also use the Internet and various other means to keep up to date and have taken courses in locksmithing since I started. If you don't like the competition, find some other kind of work.

*Jim Huffman
E-mail*

Syrup Head

I was reading Jake Jakubowski's article in the March magazine and loved the description of where the customer put their safe. I just had to tell you about one I was called out on last week.

A customer had just bought a bar and there was a Star safe in the floor. The previous owner swears he had it opened just the month before. After dropping down on my hands and knees, I took hold of the dial and wiggled it back and forth, but it wouldn't turn and neither did the head.

I look up and the soda syrup boxes are directly above the safe. Someone must have broken a bag of syrup because the head is full of it. Of course it's a depository head so the inside is full as well.

The customer opted for a new safe in a new location after he heard the price to open and repair the syrup safe.

*Robert Sierra
E-mail*

Down & Out

Recently, our car was stolen – along with my locksmith trade tools, key cutting machine and other items – from the driveway of my home.

Christmas night a borrowed pick-up in our driveway was vandalized, so it would not start. Someone also broke into my mobile locksmith shop.

The real "F" words are: Faith, friends and family and our never-ending belief in our faith even in our time of despair.

Family: The unyielding support of my brother and sister-in-law, whom have given freely of their time. He himself, (a computer tech) is out of work and desperately seeking employment.

Friends: I am faced with bankruptcy, as my funds have been depleted by recent heart surgery and the impact of Parkinson's which makes regular employment impossible.

We are too proud to file bankruptcy, but not too proud to accept help. Our thanks to several friends whom have stepped forward and offered us help.

To Tom Goes, and the family of 120 Auto Dismantlers; to John Van Zant and family of Giovanni's in Ripon; to Lyle Hensley, himself, a competing locksmith and wife Penny and to George Franklin of Franklin Industries, we will be able to start up again, soon as I can find a little money source.

There are friends and there are acquaintances. When the going is rough, you find out who your friends are. Thanks again to all.

Don and Vera Smith

Strattec H-80 Blanks

I recently purchased the update for AutoSmart and I have to say thank you to Michael Hyde for putting together a manual of this sort. After looking it over I noticed that Strattec has stopped making the H-80 key blank (Strattec #598546). This blank is only used on the Lincoln Mark series for 1997 and 1998. I called my local dealer and they said that they use Curtis for their key blanks. After checking with Curtis who has also stopped making the blank, I again checked with the dealer, and they

have yet to get back to me. I have also checked with National Auto Lock and they suggested Allied Locksmith, however they only had a couple and really did not want to part with them. I was first wondering if I could substitute a different transponder blank and if not then where I might be able to purchase some.

*David Rick
New York*

Why Has the Business Changed?

I have experienced a significant decrease in auto lockouts over the past 10 years (estimating 75% decrease) and have been wondering why. I know lockouts should not be a major part of your business to keep it healthy, never the less, what are the factors causing this decline?

My reasons in order of significance are:

1. Vehicle lock design has changed making it more difficult for car owners to lock their keys in the car

2. Cell phone owners call a road service, which is part of their cell phone contract

3. The number of locksmiths in my area has increased, dividing the work over more locksmiths

*Collis Bosworth
E-mail*

Codes on File

Other factors that Mr. Bosworth overlooked in his quest for "Why Has Business Changed?" is that auto dealers are keeping the customer's codes on file and giving the customer free key's if they lose them or get locked out. Also a lot of these tool company's will sell to anyone. Even service garages have these opening tools. I even know of a retired Fire Fighter who got locked out of a 1995 full size Chevy conversion van and took out a Slim-Jim and tried - to no avail - getting in because he was locked out. He went on to say that no locksmith could open it either.

Little did he know that I had already unlocked the same vehicle he was locked out of in minutes, without any damage to the vehicle.

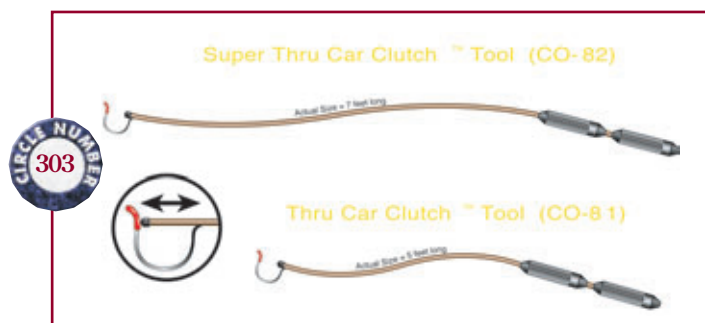
*Donald Schmidt
E-mail*

TL

Car Opening Tools

Much more than bent wire!

Today's car opening products consists of specially designed tools to overcome any obstacle or manufacturer design.



HPC's New Car Opening Tools

The Thru Car Clutch Tool (CO-81) and the Super Thru Car Clutch Tool (CO-82) are great additions to HPC's unique line of clutch tools. These tools work on the same principal as HPC's Patented Horizontal Clutch and Vertical Clutch Tools (Patent No. 5,642,648). When the handles of the tool are separated, the hook at the end of the tool is pulled inward causing the tool to grip, bind or latch. What sets these two new tools apart is that they are designed for "In The Car Opening Methods".

The Thru Car Clutch Tool and Super Thru Car Clutch Tool are perfect for hooking an inside door handle, manipulating lock buttons and switches or to retrieve keys. Both of these tools have a flexible shaft and a retractable hook with a rubberized tip. The Super Thru Car Clutch Tool is 7 feet (2.1 meters) long and the Thru Car Clutch Tool is 5 feet (1.5 meters) long.

If you are looking for a fast, easy and safe way to open a car look no further than HPC's new Thru Car Clutch Tools.

For more information contact: HPC, 3999 N 25th Ave, Schiller Park, IL 60176. Phone: (800) 323-3295; Fax: (847) 671-6343; Web: HPC@HPCWORLD.COM.



Lock Technology Hubcap and Wheel Lock Removal Kit

The LT-4000 Deluxe Hubcap and Wheel Lock Removal Kit from Lock Technology now includes the LT-4200A dual sided twist socket lug nut remover. The LT-4000 also safely removes and replaces GM, Ford and Chrysler wire wheel hubcap locks on most 1978 and up vehicles. The tools remove factory and most aftermarket mag wheel locking nut locks.

The kit includes and is packaged in a custom carrying case. The kit is one of dozens of automotive specialty tools available from Lock Technology, ranging from pick sets to lockout kits, inflatable wedges, flexible lights and more.

For more information contact: Lock Technology, 552 S. Washington, Suite 108, Naperville, IL 60540. Phone: (800) 421-7241; Fax: (630) 369-6060.

High Tech Super Pro & Power Push Tool

The Power Push tool is designed to open vehicles with cabled linkages that have little or no room to insert an inside access type tool (under the window tool). The Power Push tool slips in between the door frame and the car body. Using a special shield, the tool can be inserted without bending or prying the door. Once inside the vehicle, special control cables let you move the tip of the tool, to push the electric door lock button.

For more information contact: High Tech Tools, 1400 SW 1 ST, Miami, FL 33135. Phone: 800-323-8324; Web: www.hightechnetools.com.



PRO-LOK's Complete Kit AKCOM00

When you just can't get your fill of car opening tools, get the Complete Tool Kit, from PRO-LOK, a leader in car opening products. This 47-piece kit contains one each of their car opening tools; 5 slim jims, 7 M.C.O.T. tools, a long reach tool and all of their specialty tools. Also contains a selection of wedges in a deluxe zippered cordura cloth case with divided sections inside and sturdy handles for carrying and a tool instruction booklet.

The cost savings of ordering a kit instead of individual tools is just like receiving free tools. The slim jims are manufactured of round edged stainless steel, the highest quality material available. Slim jims will hold the bend desired and they won't rust. The wire tools are manufactured from oil tempered steel. They are formed to the desired bend, heat treated and then plated with high-gloss zinc to prevent rust or corrosion, and then heat treated again.

The tools have "memory" which means that they won't lose their shape in the door. The tools are strong, durable, yet small enough in diameter to allow you easy entry into those vehicles with tight weather stripping. All tools are ground flat on two sides, which makes it even easier to get the tool into the vehicle. The ends of the tools are knurled, which allows you to get a better grip on the rods. All tools are field tested by technicians, made in the USA, and come with a lifetime warranty.

For more information contact: PRO-LOK, 655 N. Hariton Street, Orange, CA 92668. Phone: (714) 633-0681; Fax: (714) 633-0470.

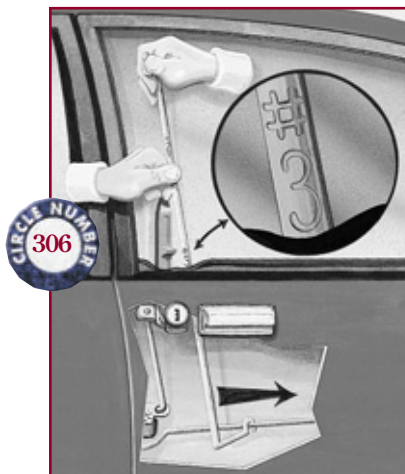


Lockmasters High Security Flip Pick

Open 2 and 4 Track High Security 3, 5, 7 and 8 Series BMWs in seconds with Lockmasters' new LKM2690 High Security Flip Pick. The Flip Pick allows locksmiths to quickly and professionally pick open the door and deck locks on what has been deemed one of the toughest cars to open. With the specially designed picking blade, the locksmith "key picks" the lock to the lock position. Then, using the high speed, high torque plug spinner, the lock is quickly spun to unlock the vehicle.

Because the bypass is accomplished through a door lock, you can feel safe from damage caused by invasive door opening tools and methods are eliminated. The High Security Flip Pick is also updateable to work on other high security vehicles like VW, Audi, Porsche, Mercedes (2 Track), Saab and more. The LKM2690 High Security Flip Pick Kit includes: 1 BMW 4-Track Key Pick, 1 BMW 2-Track Key Pick, 1 Heavy Duty Lockmasters Plug Spinner, 1 Tension Wrench. All parts come in a foam-lined plastic carrying case with handle.

For more information contact: Lockmasters at: (800) 654-0637, or visit them on the web at www.lockmasters.com.



Slide Lock Tool Company Presents the Z-Tool

The famous Z-Tool (with depth guides) is known for its important ability to eliminate the need to carry over 30 tools from the 70s, 80s and 90s. Its sister, the Inverted Z-Tool, will allow you to open those extra tough models built in the 90s and up

configured with elusive targets within the door cavities. Together, they are assigned to handle 70% of all opening situations allowing a lightning fast learning curve due to repeated use.

The integrity of this easy-to-follow system is the when, where and how-to manual which organizes and assigns each of the 9 tools for each particular model. The system manual now details the history of vehicles on over 1000 cars, trucks, vans and now SUV's from the 1950s right up to the newest showroom models. With thousands of active Z-Tool system users being updated annually, their business success continues job after job, year after year.

For additional training there is a five-part auto lockout seminar available at www.Z-Tool.com.



Steck Big Easy "GLO" Kit

The Big Easy "GLO" Kit from Steck is the complete Lockout Tool Kit for all cars and light trucks. Simply insert a wedge at the upper rear corner of the door and reach in with the Big Easy Tool to actuate the interior button, slide or handle to unlock the door. The Big Easy "GLO's" high visibility is easy to see through tinted glass and in low light conditions.

Since the Big Easy Tool never enters the door cavity, there is no danger of damage to interior linkage or wiring. Everything is visible to the operator so no extensive training is required. The inflatable Easy Wedge is now available and offers easier insertion and better control in spreading the doorframe for tool access. The Sure Grip Lock Knob Lifter is also included to capture the vertical button on some window frames. The complete Big Easy "GLO" Kit is an easy, safe and affordable car unlocking kit.

*For more information contact: Steck Mfg. Co. Inc., 1115 S. Broadway, Dayton, OH 45408. Phone: (800) 227-8325; Fax: (937) 222-6666. **TNL***



How To Pick Locks

With both learning software and tool set, you'll have everything you need to learn and perform the art of skilled lock picking.

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Model 2001 Auto Lockout System

Car opening tools have become the lifeblood for many locksmiths today. Automotive lock service and auto lockouts have always been very profitable for the locksmith. The introduction of the home do-it-yourself centers like Home Depot and Lowe's, have cut deeply into much of the locksmiths residential and even commercial work, making the automotive work that much more important. In many cases customers can purchase new locks for less than the security professional can get them from their distributor.

Luckily for the locksmith, people still need automotive lock work done. They can't buy that expertise at their local discount super center.

To make automotive work more profitable, the locksmith must rely on a good set of lock tools. Getting the job done quickly, easily and professionally is the key to running a successful and profitable locksmith business.

We will be reviewing the High Tech Tools Auto lockout system. High Tech Tools sets are very complete and take a unique approach to the auto lockouts. The High Tech approach to car openings is completeness. The idea is that when you go out on a lock-out, you or your technicians will always have the right tool and information to do the job.

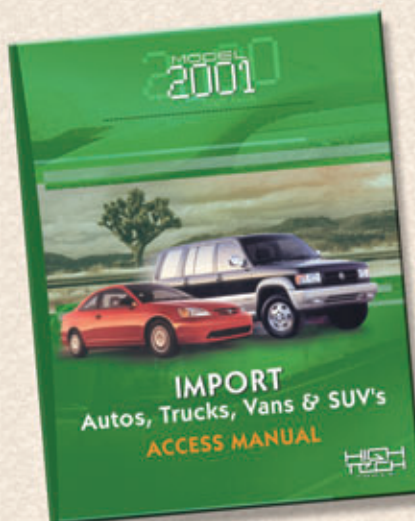
High Tech's top of the line set is the Super Pro. The High Tech Auto lock out system starts with its manuals. The manuals in the super Pro set are divided into five separate volumes, designed to cover virtually every element of auto lockout service. Every complete set High Tech makes has these same manuals.

The first set of books is the auto lockout encyclopedia. A two-volume set that is designed to cover car openings. Volume one is the Domestic autos, truck, van & SUV manual. (See figure 1.) Volume two is dedicated to Import autos trucks and vans. (See figure 2.) Together these manuals have over 1200 pages of instructions, diagrams, and photo instructions. Let's take an inside to view these books.

When going out on an opening the first thing to do is to identify the vehicle and find it in the index. This will quickly lead you to the correct page in the manual. Each vehicle is listed individually with a complete listing including the full range of years for that make and model. When you turn to the



1. Domestic autos, trucks, vans and SUV's manual.



2. Import autos, trucks, vans and SUV's manual.

proper page in the manual you will find the complete listing for that opening, you will also notice that the page is marked Method 1. (See figure 3.) This is because most vehicles which are difficult to open have several methods to unlock them. If for some reason you are unable to unlock the vehicle with the first method, you have as many as three optional methods to choose from.

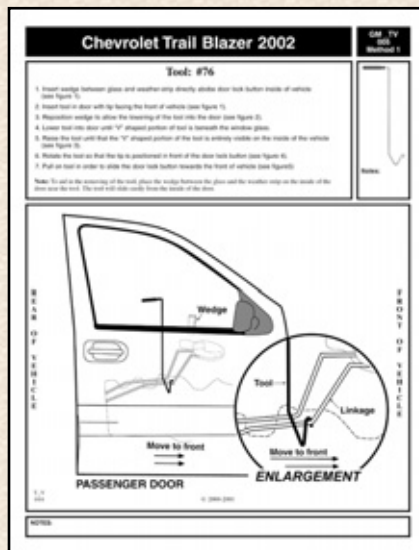
The instructions for each opening tend to be brief. The reasoning is the old adage; one picture is worth a thousand words. High Tech takes this to heart in a big way.

Each opening method has its own computer-generated diagram. These diagrams mimic the inside of the door almost exactly. The diagrams give you a view of the linkage inside the door and all the components, which are important for you to see. Perhaps more important is that the view is from the outside of the automobile looking in. This cutaway view gives you a perspective, which makes all the difference when trying to unlock the car.

High Tech also provides a set of step-by-step photo instructions. The photo instructions provide you with yet another view of the same opening.

The first photograph is a picture of the automobile. This helps in identifying the vehicle. The photo is a quick way of making sure you are working on the correct vehicle.

The next photograph shows you where and in which direction to



3. Page is marked Method 1.

point the tool. (See figure 4.) It's basic stuff, but if you do this step incorrectly the opening may fail. The idea here is simple: no detail is left out.

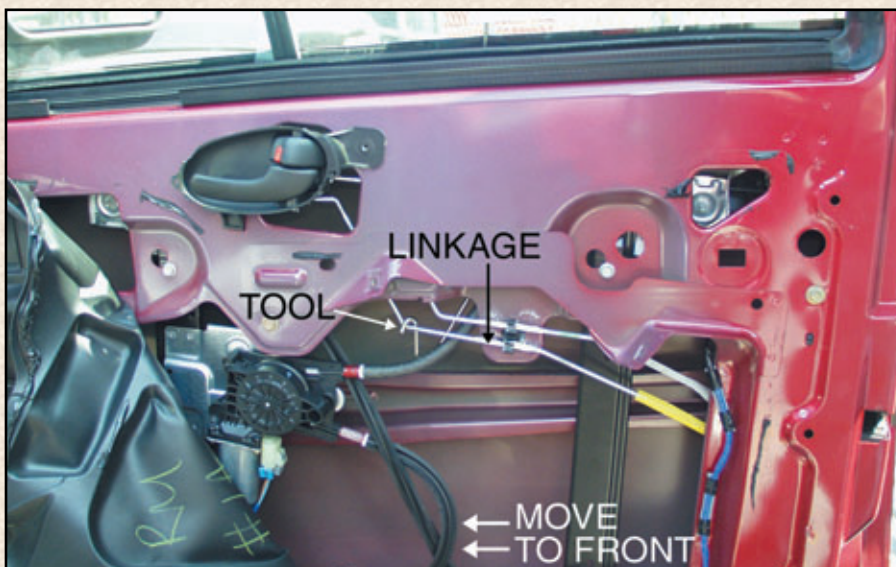
Now we come to the working position photograph. (See figure 5.) This image shows you exactly where your tool goes while in the working position. This, believe it or not, is critical. If you are working in the door and for some reason are having trouble, this photo lets you judge if you have the tool in the right spot, at the right



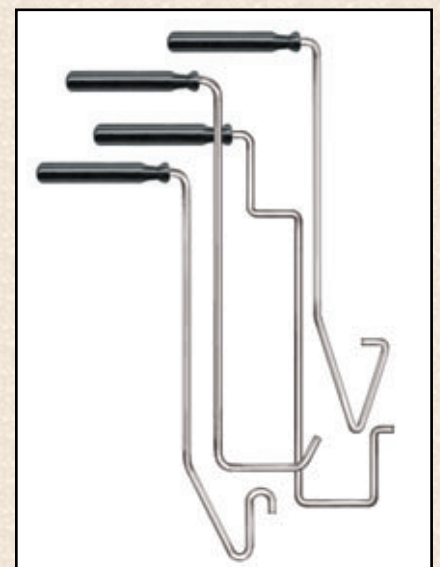
4. Showing which direction to point the tool.



5. The working position photograph.



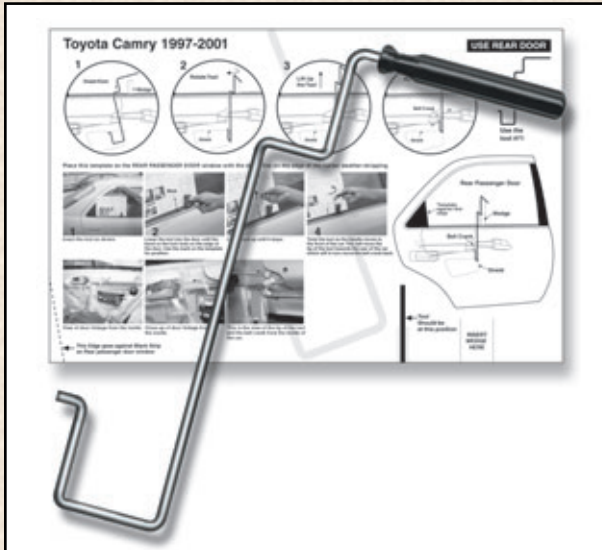
6. Photograph of the inside of the door.



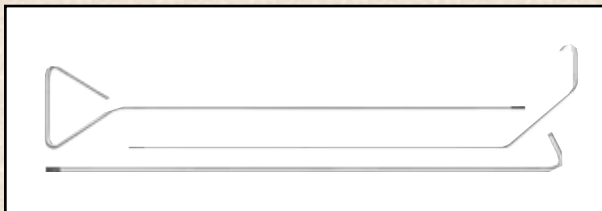
7. Each complete set comes with over 40 tools.

angle and the correct depth in the door.

Finally we come to a series of photographs of the inside of the door. (See figure 6.) With these photos you can see the actual linkage in a standard and close up view. The tool is shown so you can see its exact position and in which direction to move it.



8. The Toyota Camry tool.



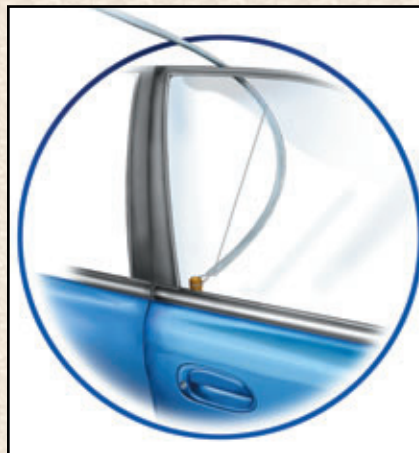
9. The remote access system.



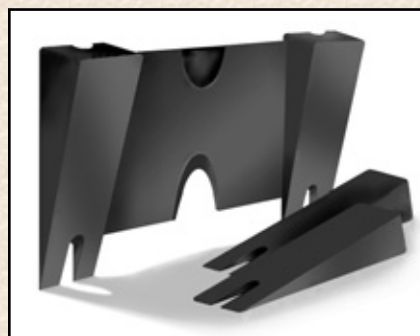
10. A string mechanism manipulates the tool.

Since the High Tech set is an all around auto lock-out service system, it includes a complete reference manual called the auto lock information volume. The information volume is a complete guide designed to cover all the basic information a locksmith needs to service auto door locks. Included is information like a complete depth and space manual, key blank numbers, and code card information. Also included is a complete labor and time guide. With this guide you know exactly how long it takes to service lock, so you can give accurate and most importantly —profitable repair estimates.

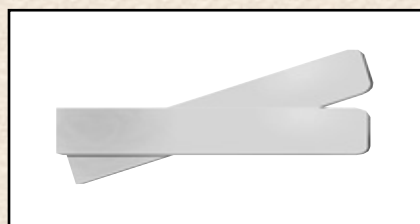
Moving on, we come to the Door Panel Side



11. The new cable pull tool.



12. The High Tech Super Wedge System™.



13. The strip savers.

Air Bag manual. Since most of today's vehicles sport side air bags, knowing what to do, and more importantly what not to do, is of the greatest importance. The door panel service section is a step-by-step photo guide to removing door panels.

Last but not least, is the Transponder Service Guide. This guide covers basic transponder service, which is an absolute must before any locksmith doing automotive work.

Now we come to the heart of the set the tools. Each complete set comes with over 40 tools like the ones shown. (See figure 7.) When you come right down to it, the fact is they are all bent wires. So what's the big deal? High Tech has a different approach to car opening. Each automobile is managed as a unique entity. So each tool is

designed to unlock a particular type of linkage. Many of the tools in the High Tech set only unlock one or two types of vehicles. This may seem like over kill, but the idea here is when you go to unlock a car and insert the tool, you never have to fumble around in the door, bend the tool or make a tool.

The tools are designed to literally fall on top of or under the linkage. Hence the necessity for 40 tools. Since there are a lot of tools, High Tech has a tool

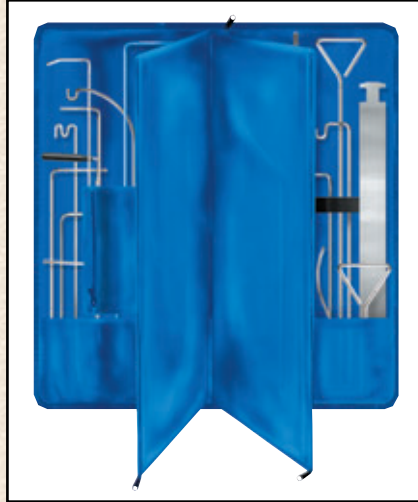
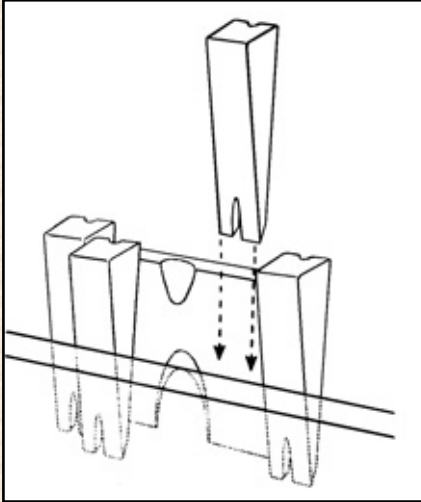
ID system to easily identify each tool with a color tag.

The Toyota Camry tool is designed to unlock Toyota Camry from 1997 -2001. (See figure 8.) This unique tool uses a template, which you place on the automobile window to find its exact insertion position. The Template has photo instructions right on it, making it easy to follow. By the way, the Camry tool now also unlocks a Toyota 4-Runner using the rear door, and a 2001 Honda civic using the rear door.

The High Tech set includes a variety of specialty tools as part of every complete set. First we have the inside access tools. We are all familiar with this type of under the window tool. The High Tech set also includes the Remote access system. The remote access system is a series

Continued on page 23

Continued from page 20



16. The Mega Deluxe soft case.



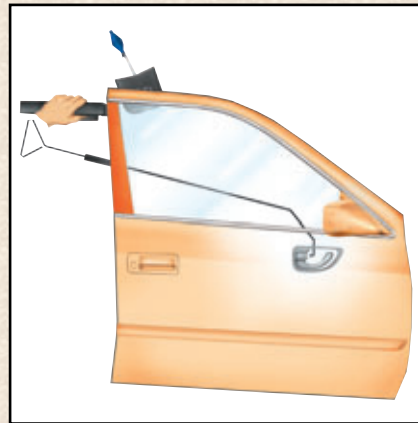
15. A high quality large red case.

of rods that are screwed together and used to manipulate the door lock button from the outside of the vehicle. (See figure 9.)

As part of the remote access system, High Tech includes a special Strap tool. This tool is designed to be slipped in between the weather-stripping and the door. A string mechanism allows you to manipulate the tool while in the door. (See figure 10.)

Now also included is the new cable pull tool. (See figure 11.) This tool is used much like the strap tool, but uses a cable system. This unique array of cable and guide strings lets you manipulate this tool up, down, side to side, and in an out, all from the outside of the vehicle.

To further simplify things, High Tech complete sets include an opening Video. This opening video is designed to show you all the newest and most difficult opening methods. Each opening is shown from the outside of the vehicle as well as from inside of the door.



17. A complete Ultra Jack™ System.

As we go on we get to the High Tech Super Wedge System™. (See figure 12.) The super wedge is a three-piece wedge system that is used in conjunction with the strip savers. (See figure 13.) The strip savers are used to start the wedge and protect the weather striping. The unique three-piece set has a large double wedge, which has slots for a probe light, and provides a working area for your tool. (See figure 14.)

Each High Tech set comes complete with a carrying case. The standard case is a high quality large red case, with double walled construction. (See figure 15.) There is also an optional hard case organizer available. The Mega Deluxe soft case uses a series of pockets to organize the tools and manuals by placing them in individual pockets. (See figure 16.)

The Super Pro also comes with a complete Ultra Jack™ System. The Ultra Jack™ is an emergency opening system that can be used to unlock vehicles in situations where

Gun Safes



Need a drill point or
relocker drill point
on a gun safe?

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#GS - 1

Lock Repair Manual



Here, under one cover you have a tremendous amount of lock servicing information. Next time you run into a problem chances are you'll find the answer in the Lock Repair Manual.

CLICK HERE TO LEARN MORE



#LRM - 1



18. The system includes a series of rods.

conventional methods might take a while and time is of the essence. (See figure 17.) This system includes a series of rods (see figure 18), a specially designed door jack tool, door pivots, rod guards and wonder shield, all in its own case. Also included is the Air Jack inflatable spreader. This unique wedge is made of ballistic nylon, not rubber. The special stiffener inside makes this a super strong, super thin, easy to insert wedge. The Ballistic nylon is so strong it holds several hundred pounds of pressure.

The High Tech Super Pro also includes an extended shaft probe light. The bulb in this light is about 3/16 of an inch in diameter. It is by far the smallest bulb in the industry.



19. Manuals on CD Rom.

information to be provided in new and different ways. High Tech addresses this issue with it's Manuals on CD Rom. (See figure 19.) The manuals on CD Rom are an interactive set of books, which actually use your Internet browser. This unique interface makes them easy to use and allows use of graphics, photos, information and even video.

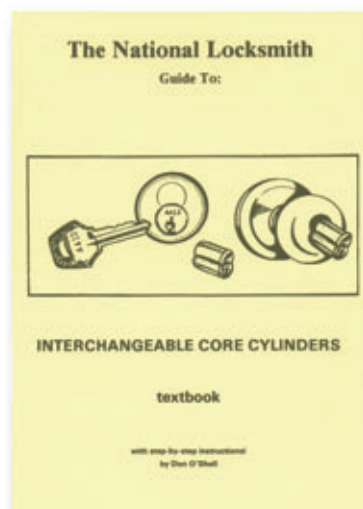
For more information contact:

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*Phone: 800-323-8324;
Web: www.hightechnools.com.
Circle 321 on Rapid Reply.*



Interchangeable Core Cylinders



Covers all this...

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- Best A3
- Best A4
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- Corbin Z Removable Core
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- Emhart System 70 Removable Core
- Sargent Removable Core
- Schlage, Yale, Lockwood
- Medeco Removable Core

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#ICB - 1



1990-96 Infiniti Q45

part II

1 This is the conclusion of a two part series covering the door lock, trunk lock and glove box lock.



by Michael Hyde

The Door Lock

2



The door lock is part of the outside door handle assembly.

3



To service the door lock, you must remove the inside door panel. First, slide the armrest cushion back towards the rear of the car and remove.

4



Remove the three Phillips head screws that were hidden under the armrest cushion.

5



The plastic trim cover for the door control unit is held in place by snaps. Gently unsnap it.

6



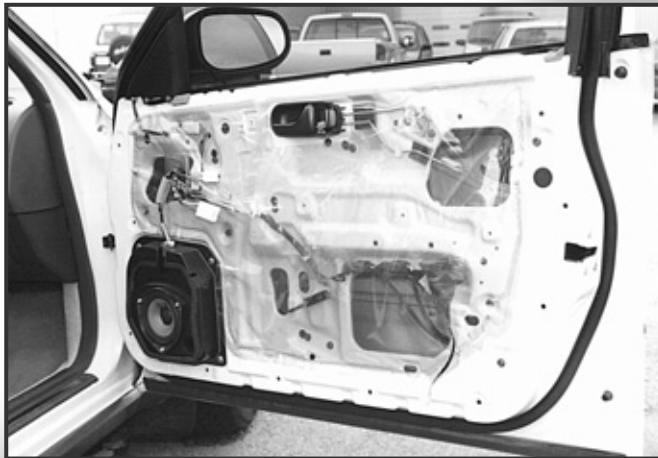
Disconnect the wiring going to the switches on the control unit.

7



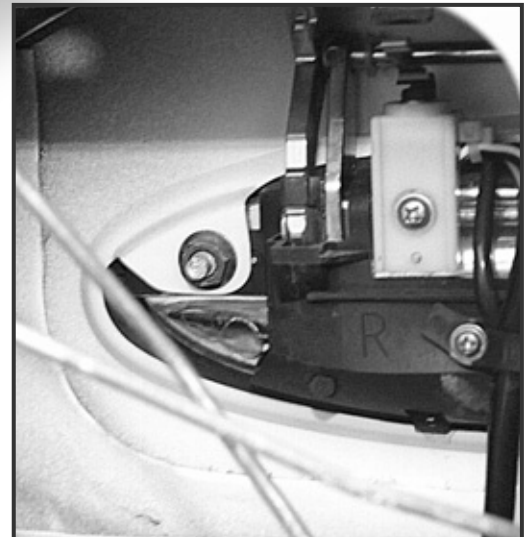
There is a hidden door panel screw under the control unit that must be removed.

8



A view of the door with the door panel removed.

9



There are two 10mm nuts that hold in the handle/lock assembly. Remove the nuts and disconnect the lock cylinder linkage rod.

10



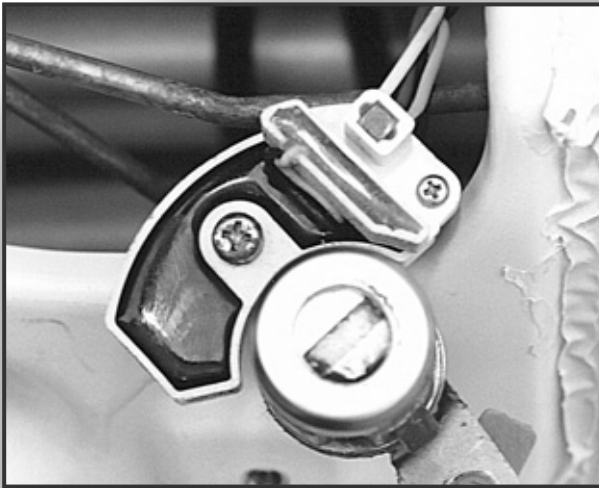
Lift out the bottom section of the handle to gain access to the retaining clip for the door lock cylinder.

11



Lift the retaining clip out of the crevice and push the cylinder from the front, out of the handle assembly.

12



Disconnect the switch sensor from the lock sensor by removing the Phillips head screw.

13



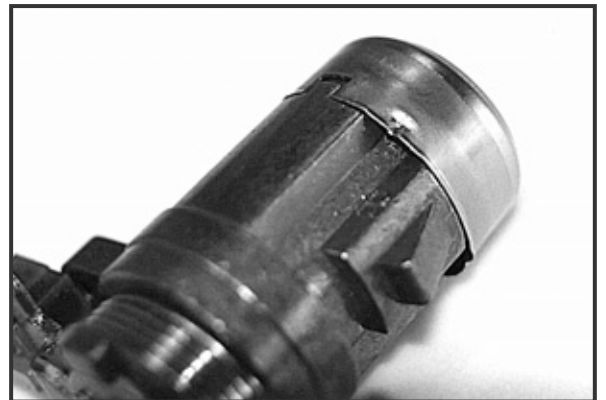
A view of the door cylinder lock.

14



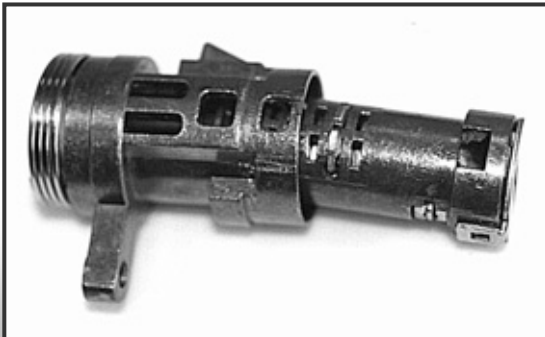
The code number is stamped on the passenger side lock tailpiece. The last 4 numbers is the code. The code series runs from 0001-6001. Only the first two thousand were published. To disassemble the lock you will have to remove the tailpiece.

15



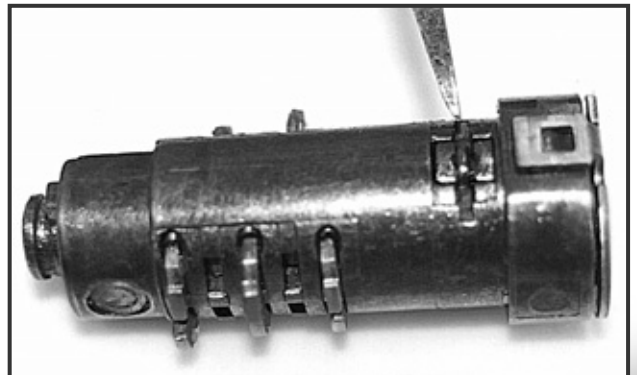
Remove the face cap. Be careful, you will have to re-use it. There are no replacements available.

16



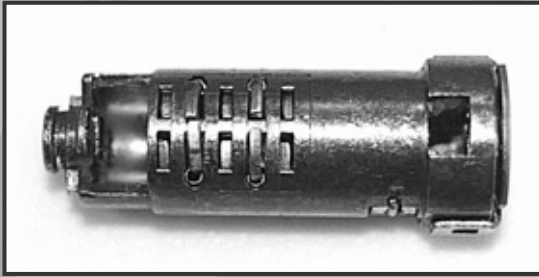
The cylinder plug being removed.

17



The pointer is showing the key trap mechanism.

18



The door cylinder plug contains five sets of split tumblers.

Making First Key:

Must have space & depth key and a high-security key machine to cut these keys.

Method #1

Check for a code sticker in the glove box.

Method #2

Disassemble the door or truck lock cylinder to get all the cuts necessary to make a master key. The glove box only has 4 of the 10 necessary cuts needed to make a master key. All Q45 tumblers are half tumblers.

Ignition Retainer:

Roll pin retainer.

The ignition lock cylinder is held into the ignition lock housing by a set of either hollow roll pins or solid roll pins. To remove the roll pins you usually have to drill directly next to them and then pry them out. Remember you have to drill right along the edge of the pin, slightly touching the pin as you drill. This way you will be able to get a good bite on the pin to grab it as you pry it out with a pin punch.

Air Bag Info:

Driver's side front and passenger side front.

Code Locations:

1990-1992 models have a code stamped on the passenger door lock tailpiece and a code sticker in the glove box.

19



A view of the door cylinder lock disassembled.

**The
National
Locksmith.**

*Safe Opening
Articles*

Volume II

1987 * 1988 * 1989 * 1990

By Dave Mc Omie

Safe Opening Articles

Dave McOmie's original articles from when he first started writing for The National Locksmith are reprinted in this book.

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The Trunk Lock

20

If the alarm has been triggered, the trunk release switch will still operate, even with the alarm going off. The electronic trunk release button is on the driver's side door panel.



21



There is an "ON/OFF" switch in the glove box that controls the trunk release switch on the driver's door panel.

22



The cloth-like liner must be either removed or pulled back to get to the trunk lock.

23



The fasteners are plastic and can be unscrewed for removal.

24



The liner pulled back.

LEFT			RIGHT	
DITG	5		DITG	
DITG	4		DITG	
DIT	3		DIT	
DIT	2		DIT	
DIT	1		DIT	

I = Ignition
D = Door
T = Trunk
G = Glove Box



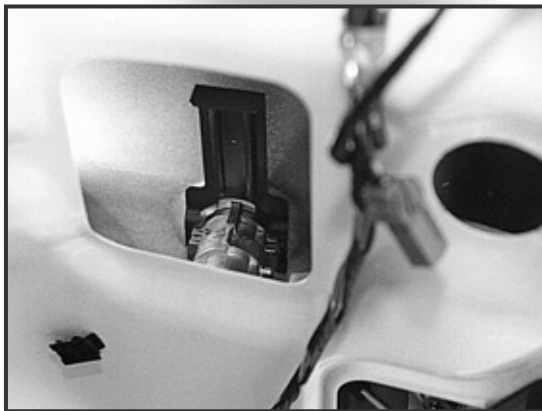
TUMBLER LOCATIONS

25



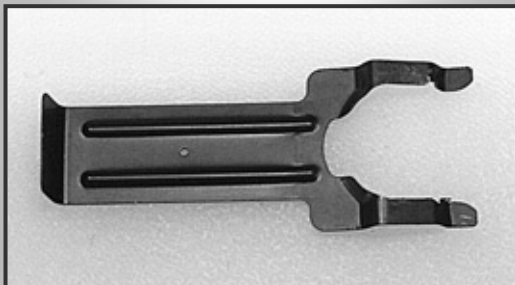
First, remove the alarm clip that snaps to the lock housing.

26



The lock cylinder is held in place by the standard metal retainer clip. Remove the clip and disconnect the linkage rod.

27



A view of the metal retainer clip.

28



A view of the trunk lock cylinder.

Wafer Lock Reading

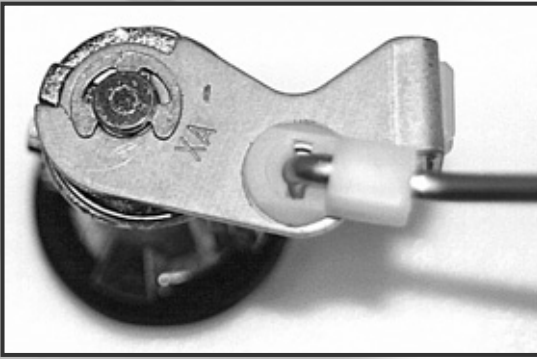


Easy to learn.
No Codes needed.

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29



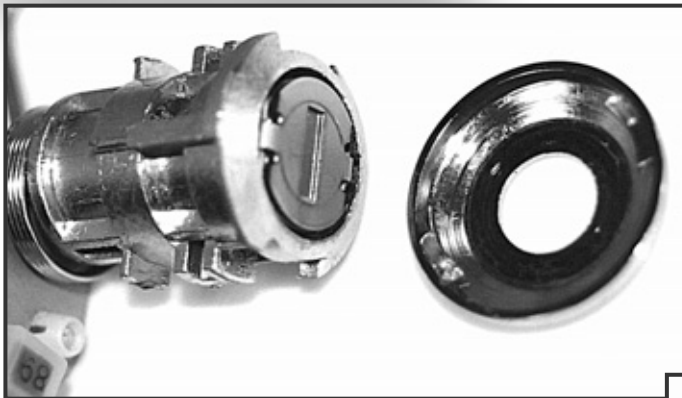
To disassemble the trunk cylinder you will have to remove the tailpiece.

30



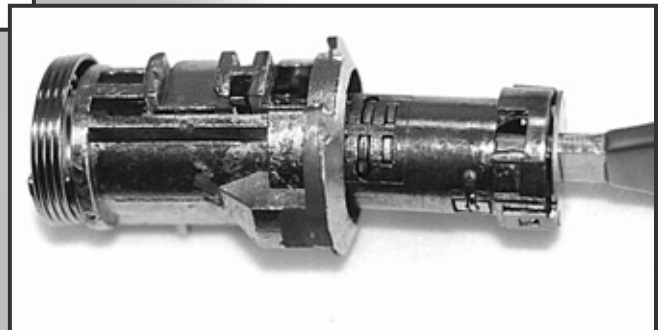
The face cap is re-usable. It has two small locking tabs. Gently pry up the locking tabs and then rotate the face cap and slide it off. No replacement caps are available.

31



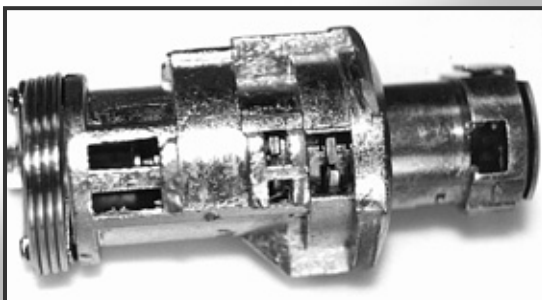
A view of the lock cylinder with the face cap removed.

32



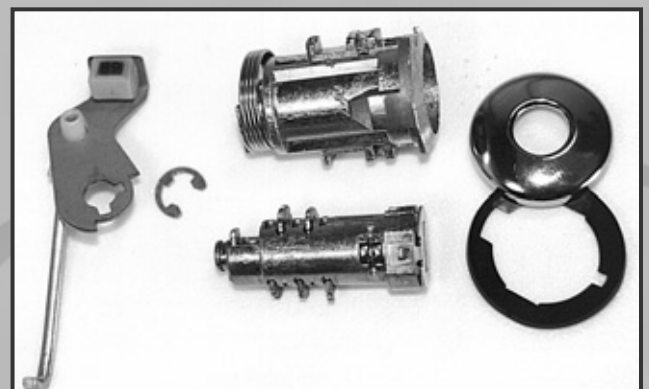
Insert the working key to remove the cylinder plug.

33



If you do not have a working key, you can still remove the cylinder plug. On the side with the drain hole, you will have to depress the tumblers to slide out the cylinder further.

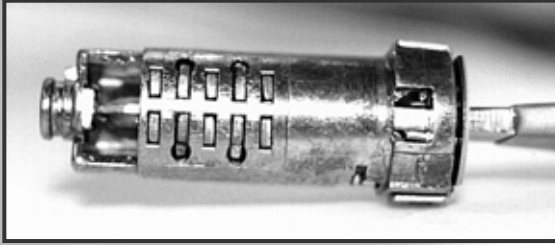
34



The trunk lock cylinder disassembled.

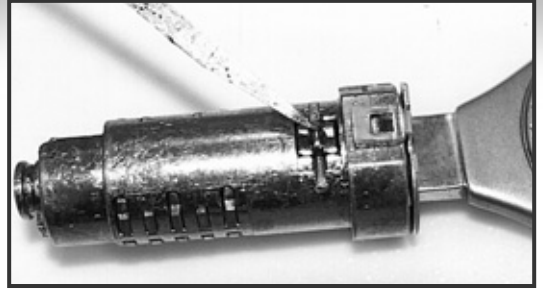
Continued from page 34

35



The trunk lock cylinder plug contains five sets of split tumblers.

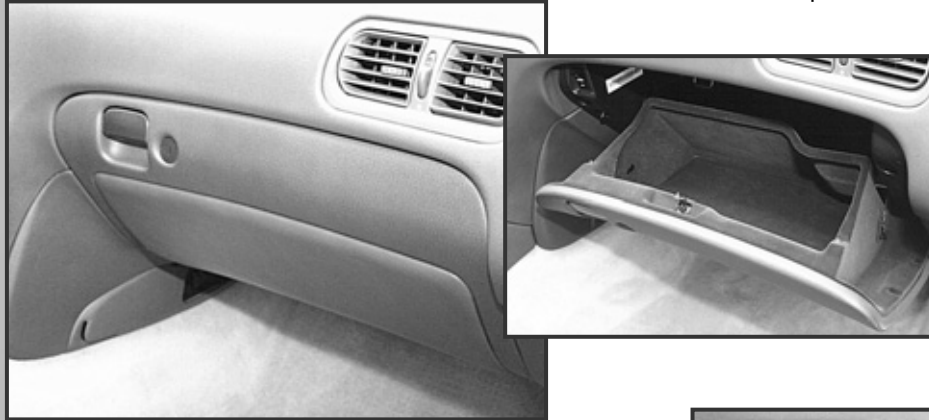
36



The pointer shows the key trap mechanism.

The Glove Box Lock

37



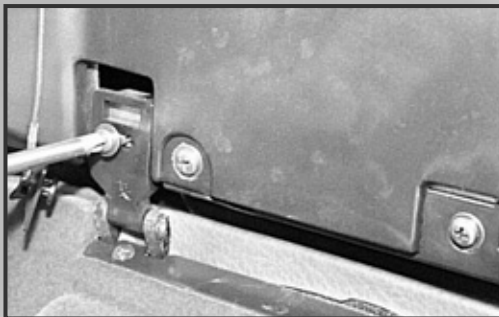
Open the glove box and unhook the two string-like limit lines.

38



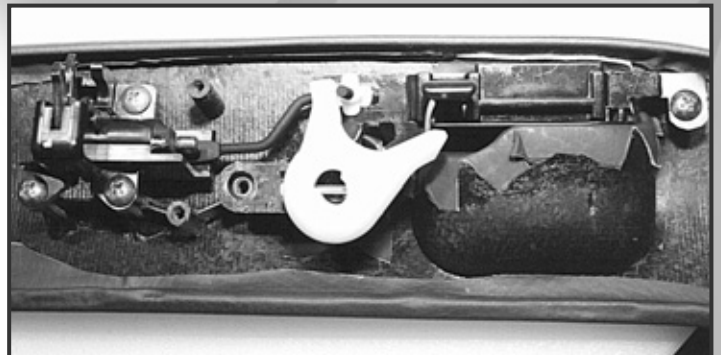
Now you can lower the glove box door and remove the two hinge screws that hold the glove box door to the dash.

39



A view of the glove box door hinge screws.

40



Once you have removed the glove box door, there are 16 screws that hold the glove box door unit together. Remove those screws. Remove the screws that hold the lock assembly to the door and disconnect the linkage rod.

41



A view of the glove box lock.

Key Blanks

Borkey: 1610PS83

Jet: INF90-PH

Fuki: NSN9P

Lotus: ND48P

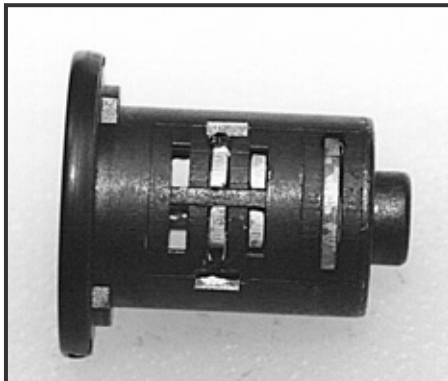
Ilco: INF90

Orion: DA25P

Ilco EZ: INF90

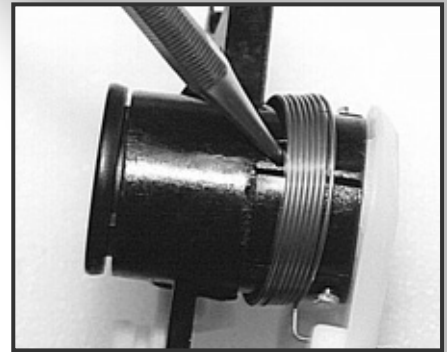
Silca: NSN9P

43

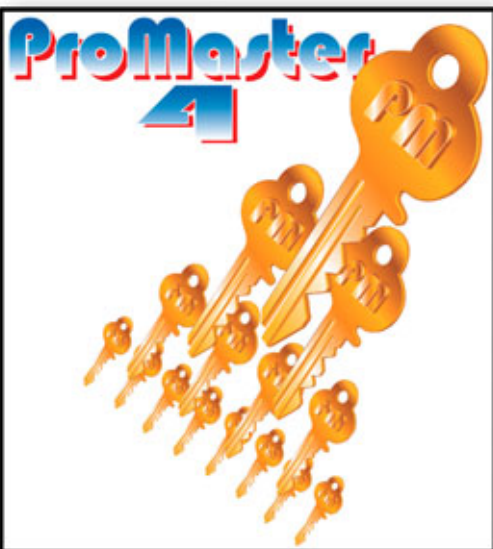


The glove box cylinder plug contains two sets of split tumblers.

42



To remove the cylinder plug, depress the retainer through the access hole.



ProMaster 4

ProMaster 4 is without a doubt, the most comprehensive and easy to use master-key system management tool available anywhere in the world.

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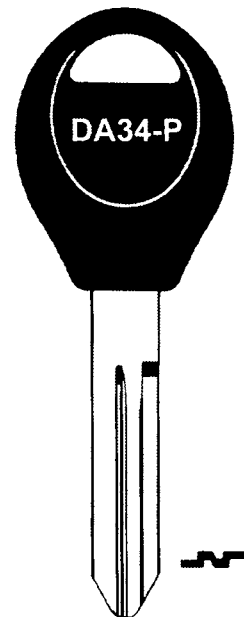


SPACE AND DEPTH

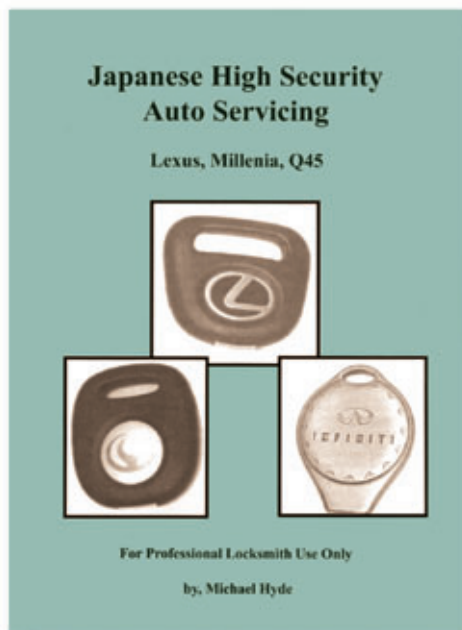
B CODE SERIES: 00001-22185													
Bow		SPACING								Tip	Cut to Cut: .083	DEPTHS	
1	2	3	4	5	6	7	8	9	10	1		.333	
.915	.833	.750	.667	.584	.501	.418	.335	.252	.169	2		.307	
Bow		FRAMON SPACING								Tip		3	.281
1	2	3	4	5	6	7	8	9	10	4		.256	
.337	.420	.502	.585	.667	.750	.833	.915	.998	1.080				
Key Blanks:		ILCO: DA34, DA35, X237, X238					SILCA: NSN14, NSN15						
Reed Codes:		N/A					HPC 1200 CM		CF304				
Curtis Clipper:		Cam DM-40		Carriage DM-41		ITL MFG:		524					
Pak-A-Punch		PAK-N4					M.A.C.S.:		2				
NOTES: FRAMON—Lay tip stop clip flat against left side of vise, then tip stop key against clip. Set first cut at .337"													

DEPTHS

1	.333
2	.307
3	.281
4	.256



TNL



Japanese High Security

Some of the most profitable cars are also the trickiest to work on.

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#JAP - 1

Quick Entry

UPDATE

by
Steve
Young



2002 FORD EXPLORER & MERCURY MOUNTAINEER

The 2002 Ford Explorer and Mercury Mountaineer, officially went on sale in the US on March 15, 2001. (See photograph 1.) This is just more proof that vehicle model years have very little in common with calendar years. The 2002 Ford Explorer and Mercury Mountaineer are just two of the 2002 models introduced in the early part of 2001. In addition to the Explorer and Mountaineer, we also have the Cadillac Escalade, Chevrolet Trailblazer, GMC Envoy, Oldsmobile Bravada, Toyota Highlander, Jeep Liberty and several other vehicles introduced as 2002 models during the early part of 2001.

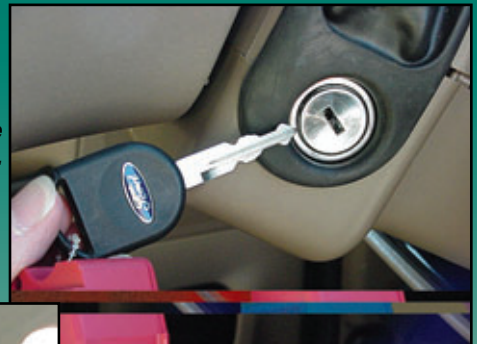
Like most of the new Ford products, the Explorer and Mountaineer are equipped with the "E-PATS" transponder system. Texas Instruments manufacture this system and they are the sole-source provider for the transponders that are used in all of the keys that are compatible with the system. Texas Instruments has decided to provide these transponders to Strattec Security Corporation only. The reason given for this decision is that Texas Instruments wants to "protect the technology." The practical side of this decision is that Strattec must make all key blanks for vehicles equipped with this system, and no "after-market" blanks will be available for the foreseeable future.

One feature that locksmiths will like about the Explorer and Mountaineer is the ignition lock. These vehicles use a lock cylinder that looks like the Ford Focus ignition lock, but is manu-



1. 2002 Ford Explorer

2. The "E-PATS" key and the new Strattec lock.



3. The TT-1028 tool before it is inserted into the door.

4. Removing the nylon insert will make inserting the tool easier.

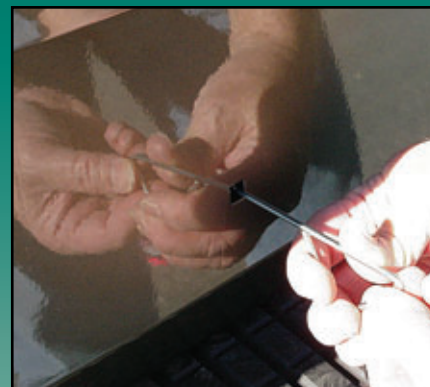


Quick Reference Guide

Vehicle: 2002 Ford Explorer & Mercury Mountaineer.	Security System: E-PATS (EST - Electronic Signature Transponder also known as "Encrypted Transponder")
Direction of Turn (driver's side): Clockwise	Code Series: 0001X - 1706X
Tool: TT-1028 or Jiffy- Jak Vehicle Entry System	Ford Key Blank: Strattec 599114 (Ford Logo)
Lock System: 8-Cut Ford, Sidebar Ignition and Plate-Tumbler (wafer) Style Door Locks.	Mercury Key: Strattec 599179 (Mercury Logo)
Lock	Bitting: Ignition 2 - 8, Doors 1 - 6
Manufacturer: Strattec Security Corp.	



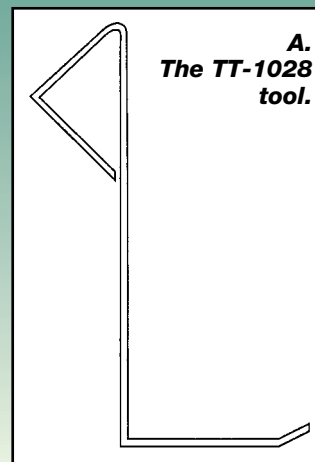
5. Keep the handle of the tool horizontal as you insert it.



6. Rotate the tool counter-clockwise until the handle is vertical.



7. The tip of the tool will operate the power door lock bellcrank.



factured by Strattec rather than Huf. (See photograph 2.) In fact, the Strattec lock will retrofit the Focus lock perfectly. This finally gives locksmiths an alternative to the dealer when it comes to replacing the Ford Focus ignition locks, which are prone to failure. Unlike the Huf lock, the new Explorer lock can be ordered uncoded (lock service package 706229), and the Strattec 8-cut Ford service kit (Strattec part number: 703373) can be used to code the lock to the customer's key.

When I first worked on this vehicle in January at the Detroit Auto Show, I found that the front doors of the Explorer and Mountaineer have very tight-fitting weather-stripping that makes inserting a tool difficult. However, while checking out the rest of the doors, I found a way to unlock the rear hatch that was simply too easy to pass up.

The linkage for the power door lock for this vehicle is located directly behind the lower left-hand license plate screw-hole. Our TT-1028 tool (see illustration A) is designed to fit into the door through this opening and attack the power door lock linkage. (See photograph 3.) There is an index mark on the shaft of the tool that indicates when the tool has been inserted to the proper depth in the door.

On most vehicles, the two lower license plate screws are not used, and these holes lie directly behind a matching hole in the license plate itself. If there is no screw in the lower left-hand position, the tool can be inserted directly

through the license plate to unlock the door. Removing a screw in this position will only take a few seconds, and then the tool can be inserted.


To unlock the new Explorer and the Mountaineer through the rear hatch, begin by removing the license plate screw or, if you wish, the entire license plate. The photographs in this article were taken before these vehicles went on sale, so there was no license plate at all on this particular vehicle. Removing the Nylon fitting that the screw fits into will make inserting the tool easier, but the job can also be done with the fitting in place. (See photograph 4.)

The TT-1028 tool is inserted into the door with the end of the tool held horizontally and the tip of the tool pointed toward the passenger side of the vehicle. (See photograph 5.) Insert the tool until the index mark is even with the outer skin of the door and then rotate the tool so that the handle is vertical. (See photograph 6.) Pull out on the tool until it stops; then twist the handle of the tool counter-clockwise to unlock the door.

On the inside of the door, the tip of the tool will contact the pin that

connects the power door lock solenoid to the inside lock control bellcrank. (See photograph 7.) Twisting the tool counter-clockwise will move the linkage into the unlocked position. The tool must be held horizontally as it is inserted to pass under the vertical plate that the power door lock mechanism is attached to. The index mark on the shaft of the tool lets the user know when the tip of the tool has passed this vertical plate.

The Jiffy-Jak Vehicle Entry System can also be used to unlock the 2002 Ford Explorer and Mercury Mountaineer. The tool can only be used on the rear door because of the unusual weather-stripping that is used on the front door. This may present a problem if the child safety feature has been activated. If the child safety feature is active, the inside lock controls on the rear door will not operate.

For more information on Tech-Train products call: 800-356-0136; Fax: (850) 476-7410; E-mail: Techtrain@techtrainproductions.com; Web: www.techtrainproductions.com. Circle 325 on Rapid Reply. 

The National Locksmith 2001 Readers Choice Awards

There's a lot of hype in our industry regarding who's on top and what company has the best product or tool to use in a specific application. The best way to measure personal preference is to ask our readers what their favorites are, and the best way to get a handle on that is to look at what items in the pages of *The National Locksmith* have generated the most interest over the year.

The following products were among the top interest producers in the industry, as determined by overall lead inquiries generated by readers of *The National Locksmith* in 2000. This is a select group consisting of only 13 manufacturers. Of the nearly 58,000 sales leads generated from readers of *The National Locksmith* during 2000, the products below received the most requests for information.

The Clam from Lockmasters

The purpose of The Clam is to provide you with an exact image of a key, allowing you to cast a usable replica. The kit consists of: small plastic clam, modeling clay, talcum powder, warmer candle, stainless steel spatula, ladle, woods metal, and a case with instructions.

By simply filling both cavities of the Clam with the modeling clay and applying the talc included, an impression of a key is made with little effort. Fill the Clam with the modeling clay. Using the steel spatula, skim off any excess across both sides of The Clam, leaving a smooth surface. Next sprinkle a coating of baby powder over both clay surfaces to prevent the clay sticking together when it closes. The Clam is now prepped for a key impression. Place the cut key on one half of The Clam. With both sides of The Clam closed

around the key. Clean off any excess clay around the key bow with the spatula.

The kit comes with a candle that is used to heat the bottom of a ladle. When it becomes hot enough, the supplied woods metal stick can be placed into the cup and melted to

provide a molten liquid. This is used to cast a key in the clay. After a minute or so, The Clam can then be opened to reveal your new key replica.

For more information on The Clam, contact Lockmasters at: (800) 654-0637, or visit them on the web at www.lockmaster.com.

The Determinator by The Car Openers

The Car Openers, Inc. recently introduced two new Determinator tools. The Determinator is an automotive lock decoding tool. The two new Determinators are the BMW

Determinator and the Toyota TR47 Determinator. There are now 21 Determinator tools for the automotive locksmith. No more pulling door panels and going through

the hassles that come with it. The unique design of the Determinator gives the locksmith a simple, reliable manner in which to originate keys.

For more information contact: The Car Openers at: (800) 561-0443.

Quick Out Emergency Trunk Release from Aable Locksmiths

Frank Markisello of Aable Locksmiths has designed a device, which can be installed on virtually any trunk lock, to open the trunk from the inside in seconds. It's so simple that a small child can open a locked trunk with just the pull of a finger. After seeing the Oprah Winfrey show about people and children getting trapped in auto trunks and how 11 children died in 1998 from trunk entrapment; Frank thought this is a problem that is long overdue for a solution. Frank went to work on designing a device that could easily be attached to any trunk lock allowing instant release to anyone trapped in an automobile trunk.

Continued on page 44



Continued from page 42

Markisello set to work and came up with the Quick Out Emergency Trunk Release that is so simple to use almost any small child that is able to pull a glow in the dark ring could be released from an entrapment in an automobile trunk. Janette Fennell Founded the (TRUNC) "Trunk Releases Urgently Needed Coalition" in 1996 and has been fighting vigorously to get legislation passed requiring trunk releases to be installed in all new vehicles. Meanwhile this device can solve the immediate problem and any future problems. Instead of waiting for car manufacturers to address this problem, the Quick Out Emergency Trunk Release can be installed in 15 minutes or less and can save a child or adults life.

For more information contact: Aable Locksmiths at: (718) 847-1377.

3-In-1 Rolling Workshop by Jensen Tools



This versatile multi-purpose cart, constructed of heavy-duty polypropylene, features a built-in cord reel, a lower flip-out bin, circular saw blade storage, a detachable center section with two-slide-out drawers, and a detachable top toolbox with tote tray. The cart has rolling casters and a push handle for easy transportation.

For more information contact Jensen Tools at: (800) 426-1194, or visit them on the web at www.jensentools.com.

Electric Lock Pick from ESP

ESP's Electric Lock Pick, which is made from aircraft aluminum and hard steel construction, has a 3-volt electrical system which is powered by two conventional alkaline or nicad "C" cell batteries. The pick includes four picking needles, three tension tools and two adjustment wrenches.



For more information contact ESP at: (508) 537-6121.

HPC Inflatable Door Spreader

HPC's Air Wedge™ is square in design and utilizes a release valve that is depressed to quickly relieve the air pressure. The Air Wedge™ slides between the vehicle door and the weather stripping on the door frame. Then the pump is squeezed, inflating the Air Wedge™ and separating the vehicle door from the frame. This provides more than ample room to insert a car opening tool to unlock the door. The Air Wedge™ is made of a sturdy reinforced vinyl and equipped with a genuine rubber inflating bulbs.

While no one tool may solve every situation, this type of tool should be a welcome addition to your arsenal. This concept originally introduced by the HPC Air Wedge™, is an excellent one.



For more information contact HPC at: (800) 323-3295, or visit them on the web at www.HPCworld.com.

The Olympus Lock, Inc. Shurlok Security Lock Box

The Shurlok Security Lock Box, the safest, most convenient key storage on the market. The durable, all-metal security lock box has 10,000 possible combinations that you can easily reset within seconds. One combination opens the shackle and another combination opens the compartment where you can store keys, cash, etc. With an accessory bracket, Shurlok can be mounted anywhere.

For more information contact Olympus Lock at: (800) 525-0954, or visit them on the web at www.olympus-lock.com.



MicroBolt ML by Saflok

MicroBolt ML from Saflok is an electronic deadbolt lock for apartment and commercial applications. This popularly priced 1-inch deadbolt throw combines security with the ability to easily make new electronic keys. A hand-held encoder is used to encode new, reusable change keys, and is used to display an audit trail of the last forty transactions. The MicroBolt ML provides three levels of key access.

For more information contact Saflok at: (800) 562-5733, or visit them on the web at www.saflok.com.



Sentrylok E-Latch

Sentrylok's new E-latch is designed specifically for use on narrow style aluminum entryways where access control is desired. Installation is quick and easy as it fits into a standard 6 7/8" X 1" latch lock cutout on the door. Tested to over 300,000 continuous cycles, the E-Latch is a reliable fail secure electrified locking device. Additionally, the E-Latch retains all of the features of the mechanical version including latch holdback, and use with a mortise cylinder and push paddle for instant egress. Available in 12VDC and 24VDC, 31/32" and 1 1/8" backsets, with field reversible handing.

For more information contact Sentrylok at: (800) 883-1116, or visit them on the web at www.sentrylok.com.



Continued from page 44

Lock Technology Lock Out Kit

The Model 1000 Supreme Master Automotive Lock Out Kit and the Model 620 Grand Master Lock Pick set from Lock Technology are two tools for the auto opening arsenal. The 20-piece lock out kit includes an updated and fully illustrated comprehensive instruction manual and comes in a custom molded carrying case with vinyl inserts. The pick set contains 37 picks, including Models

280, 290, 300, 310, 320, 330-tension wrench and 106-gas cap pick tool in a custom leatherette case.

For more information contact Lock Technology at: (800) 421-7241.

PRO-LOK Butter Bits

Would you imagine that you could drill a 3/8" hole in a piece of hard plate from a Mosler TRTL30



in just 38 sec-onds? Would you like to be able to use just one bit and be able to drill 25 holes in a piece of GSA hard plate in only 7 minutes? You can now do this and more with the incredible Butter Bits from PRO-LOK! With 5 different diameters and 11 sizes to choose from you're sure to find the bits that suit your needs. These incredible Butter Bits can be used on safes and other materials that are difficult to drill such as concrete, stainless steel, etc.

For more information contact PRO-LOK at: (714) 633-0681, or visit them on the web at www.pro-lok.com

Jet Ford Transponder Keys

Ford Transponder keys for the 2000 models, and for all prior years, can now be made without an original key. The NGS-1 plugs into the vehicle and will create a new key. Five free Ford H72-PHT Transponder keys are included with the NGS-1, and are now available from Jet distributors. Registered users of the Jet NGS-1 will have toll-free technical support, 7 days a week, including holidays. The new ETD-NGS-1S is a Jet exclusive combo package for all Ford automobiles and other cars equipped with Transponder programmable keys. The ETD-NGS-1S comes with 10 Ford and 5 of the most popular programmable Transponder keys. When purchased separately, either the ETD-1S or NGS-1 comes with 5 keys each. For further information contact Jet Hardware Mfg. Corp., 800 Hinsdale St., Brooklyn, NY 11207.

For more information contact Jet at: (718) 257-9600, or visit them on the web at www.jetkeys.com.



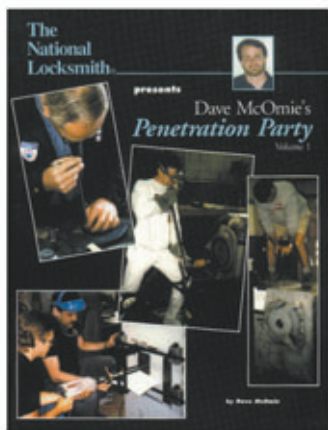
Cyberlock by Videx

Cyberlock from Videx is an innovative lock cylinder that allows quick and easy conversion of existing mechanical locks into intelligent access control systems. The Cyberlock system consists of two components: the pick-proof Cyberlock cylinder and its companion CyberKey. The electronic cylinder replaces 6-pin mechanical cylinders in tubular knob sets, lever locks, rim locks, mortise locks and padlocks. Each CyberKey contains a unique ID and controls who is allowed access at specific days and times. Each entry is recorded in both the CyberLock and CyberKey.

For more information contact Videx at: (541) 758-0521, or visit them on the web at www.videx.com. **TNL**



Penetration Party



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- The Safes!
- The Tools!
- The Action!
- The Perfect Openings!
- The Bloopers & Blunders!
- The Slick Tricks!

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#PP - 1



by
Richard Allen Dickey

Security Door Controls

Security Door Controls (SDC) is an international marketer of over 200 security products. Their products include digital and card access control, electric strikes, electro-magnetic locks, power supplies and a full line of accessories. SDC was recently registered as an ISO 9001 certified company.

All of Security Door Controls products are manufactured in the U.S. Over 30 patents and trademarks protect the company's locking systems. SDC products can be found in high-rise building stairwell doors, nuclear power plants, museums, hospitals and shopping malls. They are also found at JFK International, O'Hare, Dallas/Fort Worth and Edwards Air Force Base. Some of their international customers include: Chek Lap Kok Airport in Hong Kong, Kuala Lumpur International Airport, and in Saudi Arabia's two largest airports at Riyadh and Jeddah. They even supply products for the King Fiaid Air Force

Academy.

The history of SDC is very interesting. Arthur V. Geringer, president and chief executive officer of Security Door Controls, grew up in his father's builders hardware business in Chicago. In 1945, Geringer moved to California, where he was employed by a major Los Angeles contract hardware firm.

As electronic controls were introduced, problems with building codes and life safety became apparent. As a result, Geringer designed and produced a prototype, dual failsafe electric lock. The prototype met the California State Fire Marshal's criteria of not being dependent upon a spring to release, and tested for 800,000 cycles. The lock operated successfully for 1,000,000 cycles and was approved. The modern electric lock industry was born.



1. The SDC 950 EntryCheck® combination proximity reader and pin pad.



2. The insides of the SDC 950.

To manufacture these newly approved locks, Geringer founded Security Door Controls in 1972. Today, Geringer, his two sons and his daughter run SDC. Quite an accomplishment if you ask me.

Celebrating 27 years in access control technology, SDC maintains its quality by devoting itself exclusively to the development of access controls and electronic locking devices.

To assure superior quality, SDC manufactures its own solenoids and magnetic coils. With all of their assembly centered in one facility in the U.S., SDC's consistent commitment to innovation and quality has made it a leader in access control technology.

SDC asked us to take a look at a few of their products. I always enjoy looking at new products, so I was happy to see four of them show up at my front door. The four products included an exit sensor bar; a combination keypad and proximity reader; an electromagnetic lock and a power supply complete with batteries.

The 950 Entrycheck® Keypad

The first item I want to tell you about is the 950 EntryCheck®. (See *photograph 1.*) It is a self contained, combination keypad and proximity reader, designed to control a single door. Since it has both a proximity reader and a keypad, there are three different ways you can use the 950.

The 950 can be used as a stand-alone keypad, a stand-alone proximity reader, or both functions can be used at the same time.

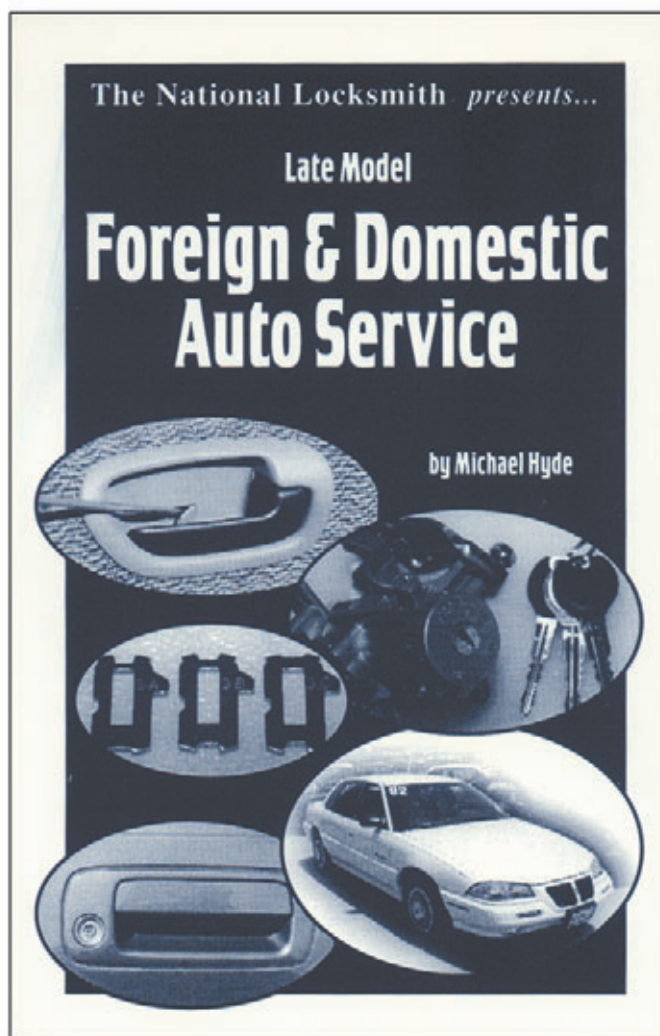
The inside of the 950 (see *photograph 2*) has three jumpers (see *photograph 3*) and a tamper switch. (See *photograph 4*). The jumpers are to set the normally open or normally closed function of the relays as well as the fail-safe or fail-secure function. *Photograph 5*, shows part of the antenna used for the proximity reader. The antenna loops around the inside of the 950 a number of times.

Here is a great option. The 950 can be mounted on a wall or on glass with an optional mounting kit. You might ask yourself, "Self, why would I mount the 950 on a piece of glass?" Well the answer might surprise you.

Although the 950 is weather resistant and can be mounted on a wall, what if you mounted the 950

Continued on page 52

Foreign & Domestic Auto Service



This book represents the best work of Automotive Locksmithing guru Michael Hyde, author of the famous AutoSmart.

CLICK HERE TO LEARN MORE

#FDAS - 1



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inside the doorway on a sidelight or window? Obviously you can't reach the buttons on the keypad, but the proximity reader could care less which side of the glass you are on when you use a card. Although the signal from the card to the reader can only travel about six inches, it will go through glass like a knife through butter. That's a great feature?

950 EntryCheck® Programming

Programming the 950 is very easy. If you are adding a card or a pin number, there are only a few steps involved. A good example would be deleting a card from the system.

- Press “*”.
- Present the master card to the reader and remove. It will beep 6 times.
- Press “3 *”.
- Present the card to be deleted or punch in the last 6 numbers of the card.

- Press “#”.

Only five steps and you are done.

950 EntryCheck® Features

Some of the features of the 950 EntryCheck® include:

- Up to 400 cards and/or pin codes.
- Choice of three entry modes. Proximity, pin code or both.
- Up to 6” reading range.
- Add, change or delete pin numbers or cards.
- Programmable door unlock time from 1 to 99 seconds.
- Tamper alarm and lockout feature.
- Request to exit input.
- Two output relays rated at 2 Amps each. One for the lock and the other is an auxiliary.
- Regulated 12 VDC only.
- LED and audible tone feedback to user.
- Weather resistant.

and includes metal mounting brackets. (See *photograph 7.*) The only plastic pieces are the end covers.

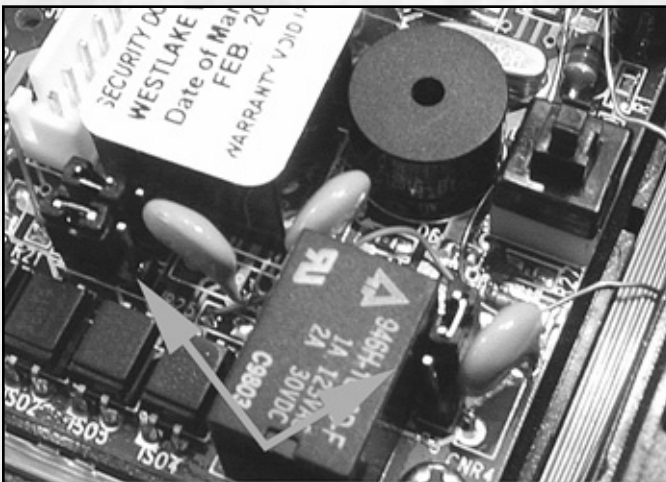
The 560 is considered a tri-fail safe device. Let me show you why.

The 560 has an electronic circuit board located in the center of the push bar. (See *photograph 8.*) Connected to the electronic board you will find two solid state pressure sensors. Either sensor will release the lock. They do not need to be adjusted during installation, however they may be adjusted from 5 pounds through 15 pounds of activation pressure if desired.

The third part of the tri-fail safe design is a mechanical switch located next to one of the pressure sensors. (See *photograph 9.*) The idea is that if the electronics within the push bar were to fail, you could still get out of the building.

Located on the circuit board are two single pole double throw “SPDT” contacts that can be used for an alarm activation or simply an annunciator panel. As many of you know, a set of contacts and a little creative thinking will allow almost anything to happen.

The installation hardware that is included with the push bar includes mounting brackets, sex bolts, end caps and an armored transfer conduit. (See *photograph 10.*) The armored transfer conduit allows wiring to transition between the door and door jam while protecting it from damage.



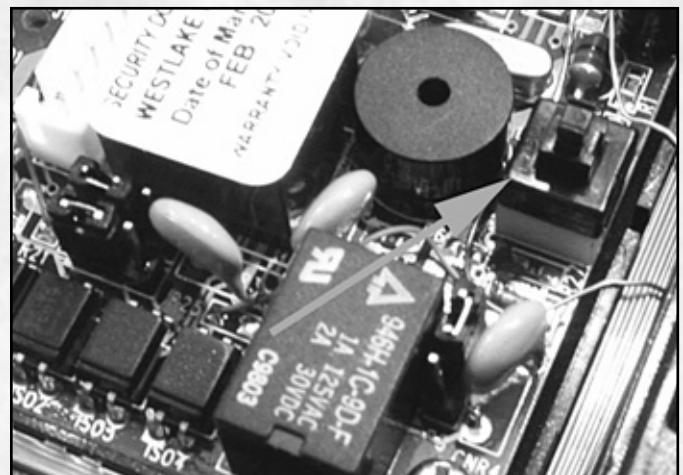
3. Three jumpers are used for relay settings.



5. The antenna for the proximity reader is wound around the inside.

The PSB560 Sure Exit Push Bar

The PSB560 Sure Exit, Request-to-Exit Push Bar, is designed for high use areas. (See *photograph 6.*) It is constructed of heavy aluminum



4. A tamper switch is built in to the 950.



6. The PSB560 Sure Exit, Request-to-Exit Push Bar.

PSB560 Sure Exit Features

Some of the features of the PSB560 Sure Exit, Request-to-Exit Push Bar include:

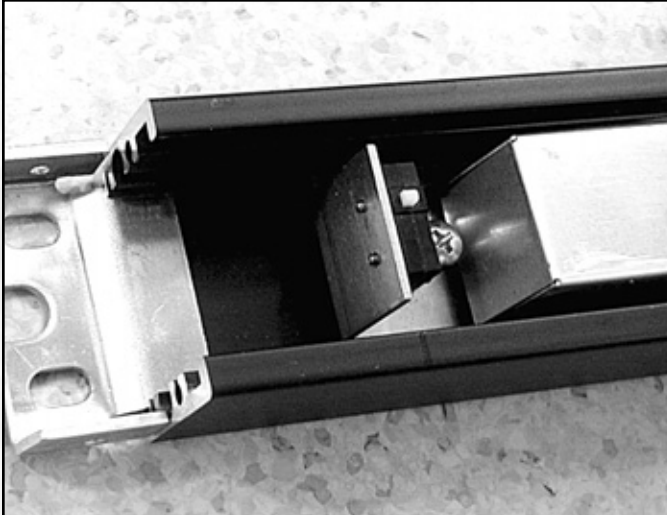
- 12 to 24 VDC.
- Two single pole double throw dry contacts.
- Operating temperature from 0 to 150 degrees Fahrenheit.
- Non-Handed
- Available door sizes include 36", 42" and 48" doors.
- Dimensions are 2-3/8" high with a 1-7/8" depth.
- Tri-Fail safe feature.
- 10 foot cable with plug in connector.
- Aluminum, black or bronze finishes.
- Activation force of 5 to 15 pounds that is field adjustable.

The EmLocks® 1500 Series Electromagnetic Lock

The EmLocks® 1500 series of electromagnetic "Mag" locks have all of the features you would expect from a mag lock as well as some innovative features you would not expect. (See photograph 11.)

To start with, the 1511 through the 1542 have a minimum holding force of 1650 pounds. The mag lock

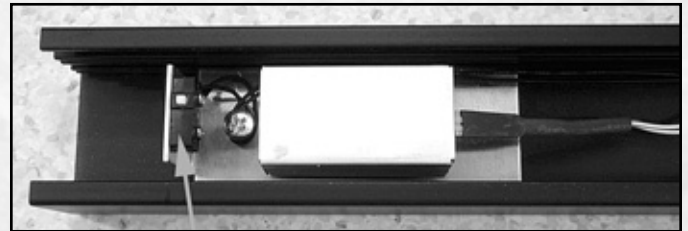
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7. One of two steel mounting brackets used with the PSB560.

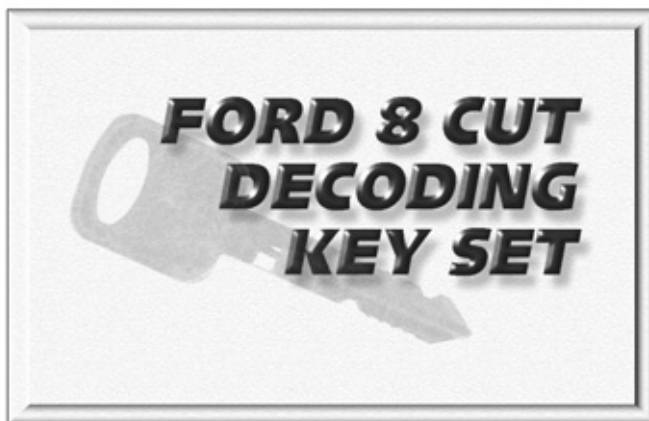


8. The main circuit board located inside the PSB560.



9. The 560 is considered a tri-fail safe device. There are two pressure sensors as well as a backup mechanical switch.

Ford 8 Cut Decoding Key Set



Complete with 143 specially cut keys and simple directions. You get door and ignition keys within just a couple of minutes.

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#FD - 8

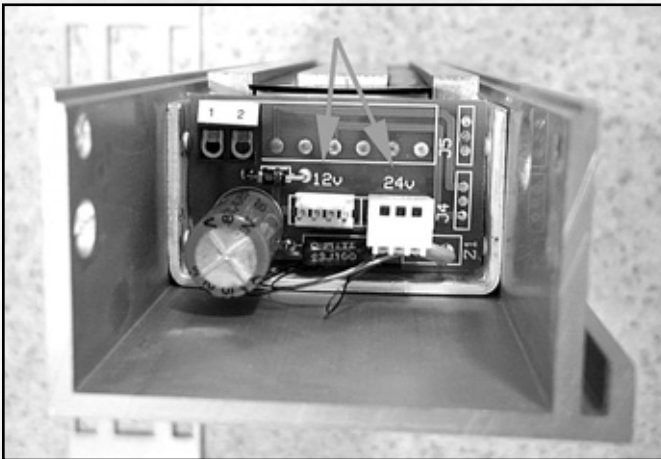
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10. Every thing you need to install the PSB560 is included in the package.



11. The EmLocks® 1500 series electromagnetic lock.



12. The 1500 series is field selectable for either 12 or 24 VDC.



13. Like most magnetic locks, the EmLocks® 1500 series comes with a mounting plate that can be installed first. This means you will not have to hold the magnet in place to install the support screws.

is field selectable for either 12 or 24 VDC. The voltage is set on the small circuit board located under the cover plate. (See *photograph 12.*) You will also find the typical removable mounting bracket that most manufacturers have gone to. (See *photograph 13.*) Now let's look at some of the new ideas.

EmLocks® 1500 series Design

The typical mag lock is basically constructed as a one-piece unit. All coils are permanently held in place by epoxy and many circuit boards are soldered to the wires coming from the coils. To service one of these typical mag locks, you need to uninstall it and often return it to the factory. Not true with the EmLocks® 1500 series.

The entire lock is modular. As you saw in the earlier photographs, its appearance seems to be the same as any other mag lock. Removing the cover will reveal the entire insides of the mag lock. (See *photograph 14.*) At this point the 1500 is 100% field

serviceable without removing it from the door frame.

Both the circuit board and the coils can be removed and replaced. The circuit board slides into a small track and is easily removed. The connection between the coils and the circuit board is a small connector that can be unplugged. As you can see, the circuit board is very simple and uses screw down terminals for the power connection. (See *photograph 15.*)

The coil is also easily replaced. To get a better view of the coil and how it is removed, I removed the coil assembly from the mag lock. Remember that removing the whole assembly is not necessary to replace the coil. *Photograph 16,* shows the coil assembly removed and *photograph 17* shows an end view of the assembly.

The coil assembly consists of a patented heavy gauge channel with electromagnetic steel lamination plates welded in place. It makes a very solid assembly. As you can see in

photograph 18, the coil simply lifts away from the assembly. There is no epoxy holding the assembly together. This is why it can be serviced while it is still mounted to the door frame.

Another nice idea with the modular design is that you only have to stock the housing in different finishes. The rest of the parts are interchangeable from one housing to the next.

EmLocks® Features

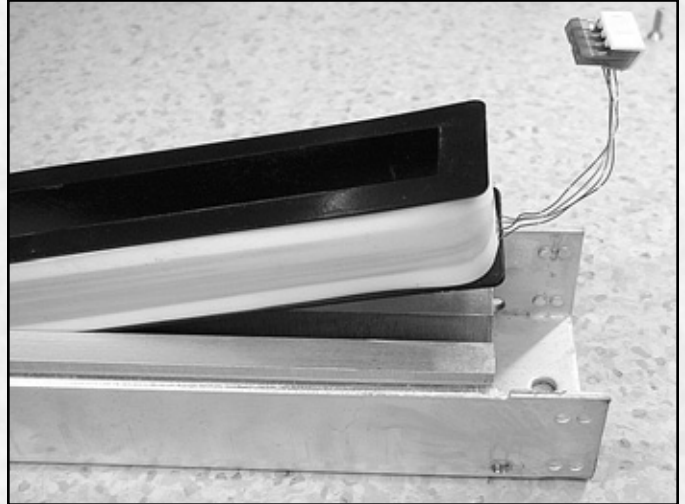
Some of the features of the EmLocks® 1511 through 1542 include:

- 1650 pound holding force.
- Patented all steel magnetic core construction.
- No epoxy.
- All surfaces are plated or anodized.
- 12 or 24 VDC field selectable.
- Modular design.
- Interlocking mounting plate.
- Solid state protection built in.

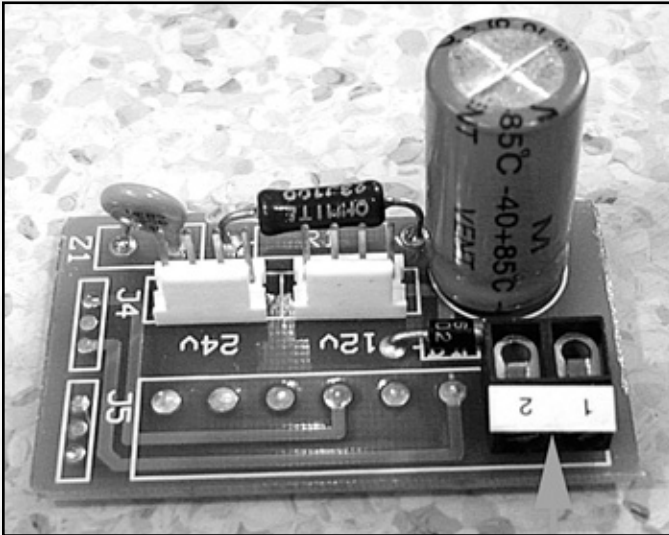
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14. With the cover removed, you have access to everything inside the housing.



18. To replace the coil, simply lift it out of the assembly. The assembly does not have to be removed from the housing to do this.



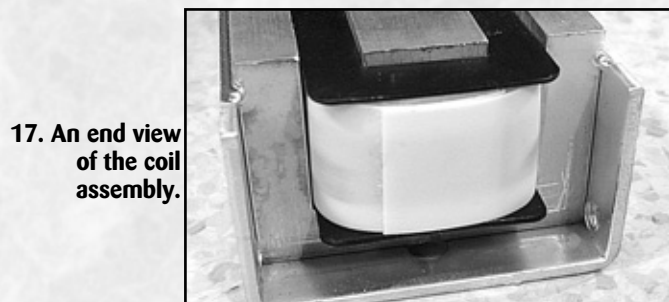
15. The small circuit board for the 1500 series is easily removed.



19. 602RF Access Control Power Supply.

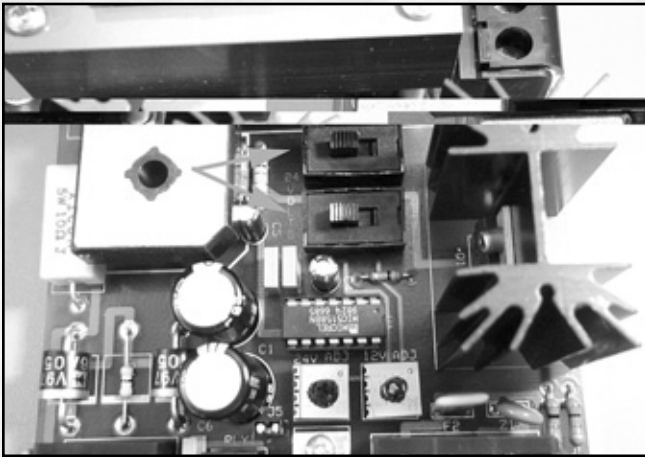


16. The entire coil assembly can be removed from the housing. If a different finish is needed, simply slide the coil assembly into another housing.

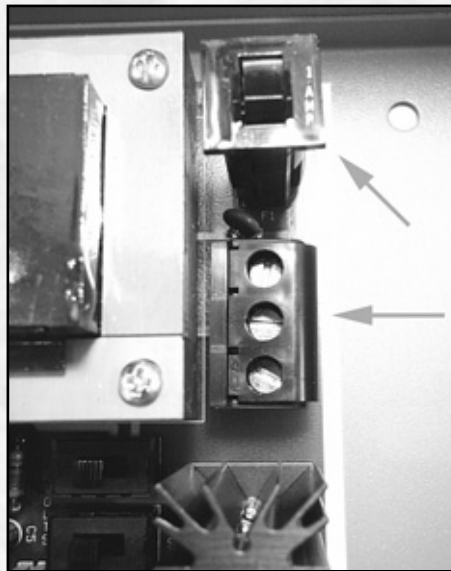


17. An end view of the coil assembly.

Continued from page 56



20. 12 or 24 VDC can be selected by sliding two switches.



21. AC power is fused and is connected to three screw down terminals. The 1 Amp circuit breaker is for the secondary output.

22. Your standard 12 VDC four Ampere hour battery.



The 602RF Power Supply

The last item I want to show you is the 602RF power supply. Often overlooked, the power supply and the batteries used for reserve power can be the most important part of the system. SDC has a real winner on their hands with the 602RF Access Control Power Supply.

The 602RF is not your typical power supply. (See photograph 19.) The idea that a power supply is a power supply is simply not true. Most power supplies use the same output to supply equipment that is used to charge the batteries. That sounds O.K. until you look a little deeper.

A 12 VDC electrified door strike expects to be supplied with 12 volts. In a typical power supply, the voltage to the batteries can get as high as 15 VDC depending on the load applied. This same voltage is applied to the devices connected to the power supply.

Sure, a typical electrified door strike is supposed to work when over voltage is applied, and they do for a while. But what is the byproduct of

that extra 15% to 25% of voltage increase. Excess heat is what you get. Heat is the evil that destroys electronics and will break down the varnish insulation on coil wires. When this happens, you get a service call.

The 602RF has a primary and a secondary circuit. While the primary circuit charges batteries at an optimum voltage, the secondary circuit supplies a regulated 12 or 24 VDC. This will ensure the longest life possible for anything connected to the power supply.

The 602RF is designed with an over size transformer so that it never has to operate at 100% load. The transformer in the 602RF only operates at 50% of its load capacity when its full rated output is used. Speaking of rated output, here is something else that is interesting. The rated output of most power supplies has to be de-rated to compensate for the current used to charge the batteries. Not true with the 602RF. Since a separate circuit is used to charge the batteries, the full rated power is available to power equipment.

The 602RF can supply either 12 or 24 VDC by sliding two switches. (See photograph 20.) AC power is fused and connected to three screw down terminals. (See photograph 21.) The secondary output to your equipment has a circuit breaker. With two 12

VDC, 4 Ampere hour batteries, the power supply will supply 1 Amp of power for 7 hours during a power outage. (See photograph 22.) This is an excellent power supply.

602RF Power Supply Features

Some features of the 602RF Access Control Power Supply include:

- Separate battery charging circuit as well as equipment power circuit.
- Low battery disconnect to protect the batteries from damage in the event power is not restored.
- System status LED.
- Dimensions are 11.5" x 11.5" x 3.5".
- 1 Amp at 12 or 24 VDC field selectable.
- 500 mA battery charging circuit.
- Modular design allows additional relays to be added at any time.
- Input and output is overload protected.

Security Door Controls (SDC) services some very prestigious customers. To keep those customers, their products have to be dependable and versatile. I like the innovation and quality I have seen in their products. Keep up the good work SDC!

*For more information about the above products, you can contact SDC at (805) 494-0622 or fax them a request at (805) 494-8861. They are located at 3580 Willow Lane, Westlake Village, CA 91361-4921. They also have a nice web site at www.sdcsecurity.com. Circle 322 on Rapid Reply. **TL***

The WINTER Side

Look Before You Leap



by
**Sara
Probasco**

"I can't get my front door to stay locked," the customer said. "I turn the key and think it's secure, then it comes unlocked again. It's like there's a gremlin in there, or something."

Being thoroughly familiar with gremlins, Doug-the-locksmith** hurried to "save the day."

Upon examining the situation, a split spindle was discovered. Also, the lock cylinder had been put in upside down. Making the necessary repairs, Doug inverted the cylinder and thought he'd fixed everything. At least the lock operated properly with the door open.

The homeowner's wife returned home about then.

"What's going on?" she asked her husband.

"I called a locksmith to fix the front door lock," he replied. "I think he's got it about ready."

"Great," the woman said, reaching for the doorknob.

"But don't..."

She slammed the door from the outside, to give it a try. "What did you say, dear?" she asked.

"...shut it yet," he finished weakly.

Need I tell you, the door wouldn't unlock?

Chagrined as much at herself as anything else, the woman walked around the house trying various doors and windows. All the ground-floor windows were closed and locked, and the back door was bolted from the inside. However, there was a tall extension-ladder propped against the side of the house.

"No problem," she called to her husband. "I'll just climb up, go through that window into our bedroom, and open the front door from the inside."

Now, this woman was no spring

chicken. In fact, she was bordering on elderly.

"Wait!" the locksmith cautioned. "Let me climb up there. You might hurt yourself."

"Poppycock!" the woman replied as she started up. "I've been climbing ladders for years. In fact, I was up here cleaning windows, just this morning."

By this time, several of the neighbors had wandered over to see what was going on, and a little crowd was forming at the base of the ladder. This seemed to add to the woman's sense of the theatrical. She did a little comic dance step as she climbed higher and higher.

Upon reaching the window, she found that the ladder, although tall enough to clean the glass, was not tall enough for her to easily raise the window and step inside from her precarious vantage point. She pushed and shoved, finally coaxing the lower window to open part way, but there it stuck and would go no farther. When she stood on the top rung of the ladder, the window sill hit her at hip height. Try as she might, even with encouragement and suggestions from below she wasn't agile enough to get a leg over the sill and climb inside.

Finally, with a flourish, she turned halfway around and hiked herself up to sit on the sill. Then, with a little salute to the growing crowd, she reached toward her ankles, jack-knifed, and slid through the opening rear-end first.

The spectators applauded and cheered. Then they noticed her feet, hands, and head protruding out the window opening.

"Help! I'm stuck," she called with a muffled voice. "Somebody get me out of here. I can't move."

A helpful neighbor shimmied up the ladder and shoved the poor woman into the house. Once free, she

came downstairs and opened the front door so the locksmith could complete his work.

Don shook his head when I shared this tale with him.

"Reminds me of the time that customer's neighbor was trapped on a narrow ledge outside a 4th story window, trying to get inside to open the apartment door for her," he said. "Remember? Somebody across the way saw him plastered against the outside of the window, holding on by his fingernails, and they called for help."

"Oh, yes. As I recall, once they got the apartment opened, they came in and tried raising the lower half of the window, but he couldn't bend over far enough to get in without losing his hold."

"That's the one."

"And when they lowered the top half, it was too high for him to step over," I said.

"Right again."

"I forget how they finally got him down from there."

"Well, with the top half of the window lowered, the locksmith – who was inside by then – told the guy to stick his head through the opening. When he did, the locksmith grabbed him by the neck and yanked him into the room head first, before the poor fellow knew what was happening."

"I'll bet he was surprised."

"No joke! Truth is, that locksmith probably saved his life."

"Sort of reminds me of the time you got stuck under the grain-storage boxcar," I said.

"I see no similarity," Don said.

"Sure there is. You hollowed out a spot where you could crawl under it and put a plug in where the grain was coming out. Then you couldn't

manage to back yourself out.”

“You just don’t know when to leave well enough alone, do you?”

“Wasn’t it the same kind of situation? You might still be trapped under there, if that guy hadn’t seen you crawl in and figured you could use some help getting out. That’s scary.”

“Actually, it was stupid of me to get into that situation in the first place.”

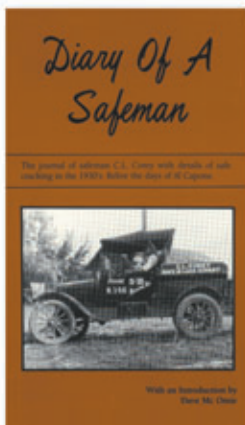
“Well, let’s face it, the guy on the window ledge wasn’t using a whole lot of good judgment, either. But, like a friend of mine once said, ‘Anybody who doesn’t goof up now and then isn’t doing very much.’ In both cases, you guys were at least trying to accomplish something worthwhile. You just didn’t think it through before you took the leap.”

“I guess you’re right.” Don smiled, his eyes twinkling. “Of course, it’s a good thing the guy on the window ledge didn’t leap at all, as you put it, or his would have been a different story altogether.”

** Special thanks to Doug Martin (Martin’s Lock & Key, Canton, MO) for sharing his experience with us.

TNL

Diary Of A Safeman



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#DIARY

GM Sidebar Lock Decoder System

The National Locksmith®

GM Sidebar DECODER SYSTEM

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By Thomas Thill

Tom Thill, the author of a new book, has invented an amazing new way to make keys for six cut GM Sidebar Locks.

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#TT - 1

VAN LOCK

PART TWO



by
Sal Dulcamaro,
CML

Last month I covered the basic operation of Van Lock's somewhat reverse image tubular key and lock. When you compare it to the more typical design tubular key and lock, the Van lock is surprisingly easy to service. The lock cylinder is unusually compact, so it allows for the possibility of keying alike a fairly varied group of locks. I showed a number of examples last month, such as safety padlocks, cam locks and vending machine locks.

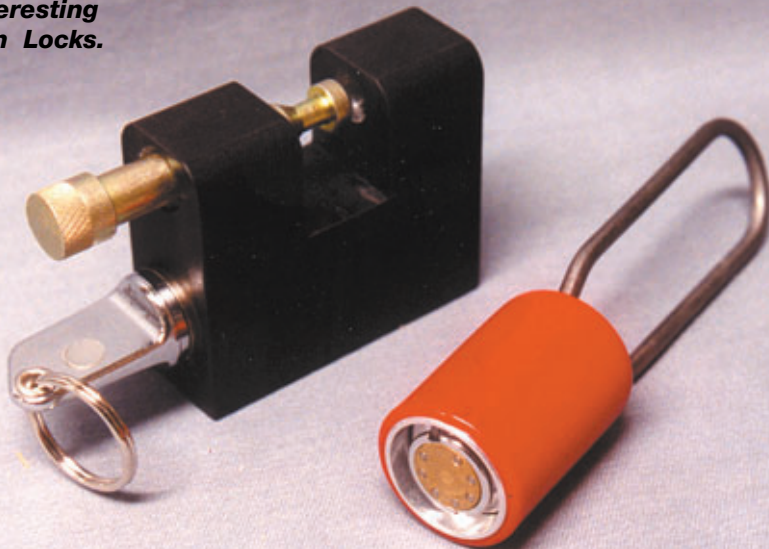
Photograph 1, shows a few other interesting locks from Van Locks. Above and to the left is a somewhat unusual design padlock, at least in respect to its shackle. Lower and to the left is a locking key ring. I guess it operates somewhat like a padlock, as you can see in *photograph 2*. Unlocking the key ring is like releasing the shackle on a padlock. The thin metal rod material is somewhat hoop shaped like the shackle on a padlock, but obviously too thin to consider for anything but the flimsiest of padlocks. It is about thick enough for use as a key ring, which is its purpose. Like other locking key rings, its purpose is to prevent people from removing keys from the ring without proper authorization. This particular device uses the same type of tubular key and lock cylinder as the other locking devices from Van Lock. You will see a few other style locks later in the article.

Lock Tumblers

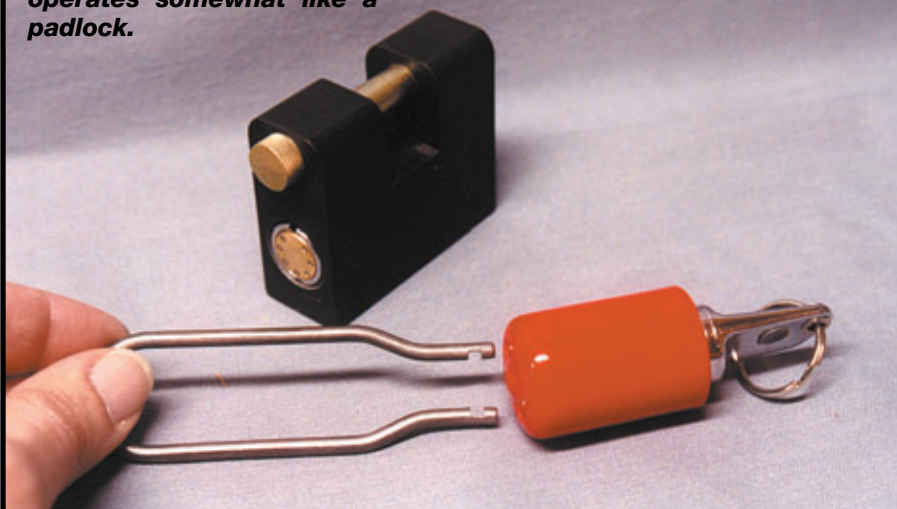
Last month I illustrated the process of disassembly for the lock cylinders, and explained how the lock operated. The general mechanical operation of tubular keys and locks from Van Lock is similar to the more traditional style tubular keys and locks, but there are some very specific differences. While Van Lock style and traditional ones have what might be called front and rear pins, the specific interaction between the keys and tumblers is different.

A more traditional lock version will typically have seven tumblers projecting forward (in a circle) from the lock face, with the forward limit of movement caused by an outer

1. A few other interesting Van Locks.

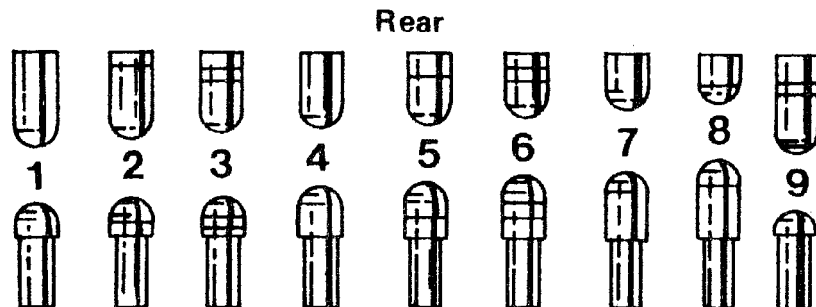


2. A locking key ring operates somewhat like a padlock.



STAINLESS STEEL FRONT AND REAR TUMBLERS

Stainless steel provides additional strength, security and wear resistance



A. Illustrations of the nine rear pins and the nine front pin sizes.

ring with a projected lip part way in the forward path of the pin. Some tools are made that break off that front stopping face of the lock to allow all the pins to be pulled forward out of the pin chambers, which effectively removes any obstruction to the path (or surface) of the lock's shear line. The chart in *Illustration A*, shows the general shape of the tumblers used in lock cylinders for Van Lock. At the top of the illustration are the nine rear pins, and at the bottom are the nine front pin sizes.

The curved or radiused ends of the tumblers are somewhat exaggerated in comparison to the surface shapes of the actual pins. Those surfaces are rather flat in reality. Imagine the curved surfaces to be where the front and rear pins contact each other within a pin chamber. They are matched pin stacks. A shorter front pin is matched with a longer rear pin and vice versa. The reason I point out the correction in shape is that the picking resistance would be dramatically reduced, if they really had that dramatic a curved surface interacting at the shear line. I wouldn't want the readers to get the wrong idea about the tumblers.

The printed materials from Van Lock didn't list the tumbler specifications, so I had to measure them to get an approximation. If not exact, they should be within a few thousandths of an inch. Rear pins are a single diameter, while front pins have a wider diameter at the back end (that contacts the rear pin) and a narrower diameter at the front end (which projects from the face of the lock). I found the diameter of the rear pins (and the wide part of the

front pins) to be about .078 inch. The narrow end of the front pins was about .063 inch. If you look closely at the drawings of the front pins, you will see that while the overall lengths are all different, the length of the narrow ends of the pins are about the same. That length I figured at roughly .152 inch.

A reason for that part of all the front pins to be the same length is to minimize the ability of someone to be able to determine the tumbler lengths by how far they project. Also from a security perspective, it prevents the tumblers from being unloaded from the face end of the lock. The front pin chambers have a narrower diameter to the face end of the lock cylinder and a wider diameter to the back. When the front pins are pushed forward by the rear/driver pins (with the assistance of tumbler spring pressure), the wide part of the front pins stop them from moving any further forward. Because the front pins are the same length at the narrow front end of the tumblers, they all project forward with the fronts of the pins roughly even with the face of the lock. There would be no apparent (externally appearing) difference between a shorter #2 front pin and a longer #8 front pin. The measured sizes are listed below.

Pin #	Front Pin Length	Rear Pin Length
1	.215	.220
2	.230	.205
3	.245	.190
4	.260	.175
5	.275	.160
6	.290	.145
7	.305	.130
8	.320	.115
9	.200	.235

How To Create Master Key Systems



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#HT - CMK1

You may have noticed the peculiarity of the #9 front pin being the shortest front pin shown in illustration A. It's even shorter than the #1 pin. The pin chart shows that the #9 front pin is one size (increment) smaller than #1. Since the pin stacks are matched, the long #9 rear pin will be naturally one increment larger than the #1 rear pin. I found the pin stack of each chamber to be .435 inch. That is the measure of a specifically numbered front pin and its mating numbered rear pin. As I indicated before, these are my measurements and may not be exact. The increment between sizes of .015 is indicated in the literature, and therefore exact. You can see that variation between sizes in the chart. Some of the pins (both front and rear) have rings around them. They may be score marks to help deter picking, but I'm not sure. Among the front pins, the following have one ring: 2, 3, 5, 6 and 8. 3 and 6 have two rings, and the remaining front pins have none. Having a single ring among the rear pins are: 2, 3, 5, 6, 8 and 9. Rear pins with two rings are: 3, 6 and 9. The other rear pins have no rings. The tumblers (front and rear) are all made of stainless steel.

When I explained the disassembly/ servicing procedure for the lock cylinders in part 1, I forgot to identify the size of the ejector screw that was used to help disengage and remove the locating pin. It is a 2-56 machine screw. The screws in the service kit are just a bit over a 1/2" in length, but screws slightly shorter or anything longer could also work if you ran out.

Building a Key

The Van Lock key is different than most. It is built rather than cut. For some of you, this may be the first assembled key you have seen. With all the articles I've written over the years, I've seen a few, but very few.

Photograph 3, shows an assembled Van Lock key in the bottom right hand corner. The others are disassembled parts of three different versions of Van Lock keys. There are more than just three types. The basic parts of an unassembled key are shown in *photograph 4*. Those parts are the handle, key cup, screw and key pins. There are only two key pins shown here, but most

Van Lock keys will require seven key pins, which coincide with the seven pin chambers of the lock. There are also locks with five chambers, and they have matching keys that only use five key pins. The key pins, like pin tumblers, come in different lengths. There is a matching key pin size to go along with each pin tumbler size for the lock.

The key handle has an almost "D" shaped cavity to accept the key cup. You can see the matching outline shape of the key cup in *photograph*

5. The surface exposed in the photo will mate with the key handle's cavity. There are seven holes to accept the key pins. Two of the seven holes are currently filled with key pins, while one key pin is turned sideways and resting on the cup. You can see there is a stubby wide end to the key pins. This prevents them from falling through the holes of the key cup, after being loaded. The cup, with pins loaded, is being attached to the handle in *photograph 6*. With the mating shapes of the handle and cup aligned, the screw is inserted in *photograph 7*. The screw would normally be tightened only after all seven key pins were loaded. What you see here, with four missing key pins, is merely for demonstration.

Resetting the Key and Lock

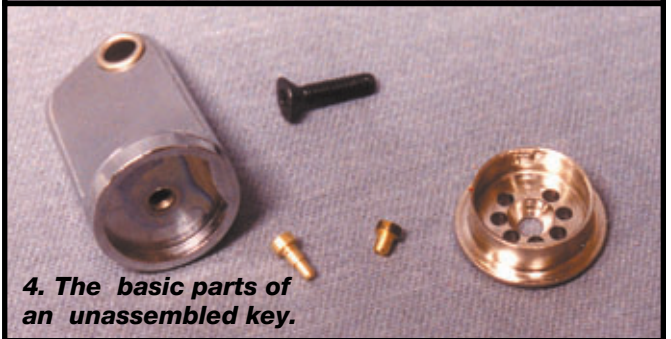
Van Lock products have the rare ability of rekeying both the lock and the key. Even if you didn't possess a key pin service kit or a pin tumbler kit, you could lock out any unaccounted keys by rearranging existing pins in both lock and key.

If you wanted to do a simple rekey by merely rearranging the positions of the existing tumblers, you would need to remove and disassemble the lock cylinder. After using the 2-56 ejector screw to remove the locating pin, the core would come out of the housing. With

3. An assembled Van Lock key.



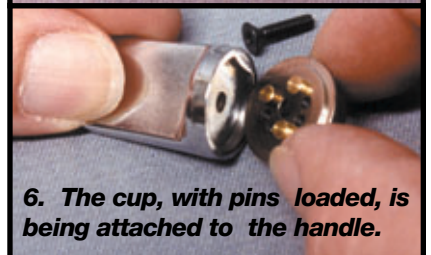
4. The basic parts of an unassembled key.



5. The matching outline shape of the key cup.



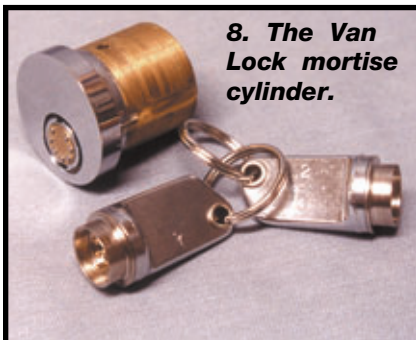
6. The cup, with pins loaded, is being attached to the handle.



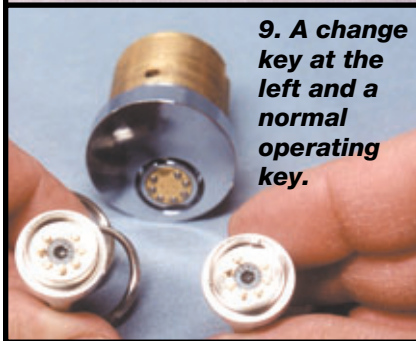
7. The screw is tightened after all seven key pins are loaded.



the core in hand, you would need to disengage the "E" shaped retaining ring, which would release the core washer. The core washer acts as a tumbler or tumbler spring cover. Removing it gives you access to all



8. The Van Lock mortise cylinder.



9. A change key at the left and a normal operating key.

the pin chambers. The simplest type of rekey might involve emptying a few of the seven chambers and swapping positions. Remember the pin stacks are balanced, so the rear pin for a particular chamber must go along with the mating front pin. After reinserting all pins and springs, you

would replace the core washer and reattach the retaining ring. Next you would put the core back into the housing and press the locating pin back into place to complete the assembly.

To reset the key, first you should have written down which chambers you switched. Then you would remove the screw from the currently assembled key with a #2 Phillips head screwdriver. With the handle facing upward, carefully separate the key cup from the handle. Leave the cup with the narrow tips of the key pins pointed downward. Gravity will keep the key pins in their place as long as you don't tip the cup. Switch the same key pin positions on the key as you did with the pin chambers in the lock. After all the key pins are where you want them, bring the handle down upon the key cup with the "D" shape contours aligned. When the handle

and cup are connected, you can then tip the assembly without the key pins falling out. Reattach the screw, and the job is done.

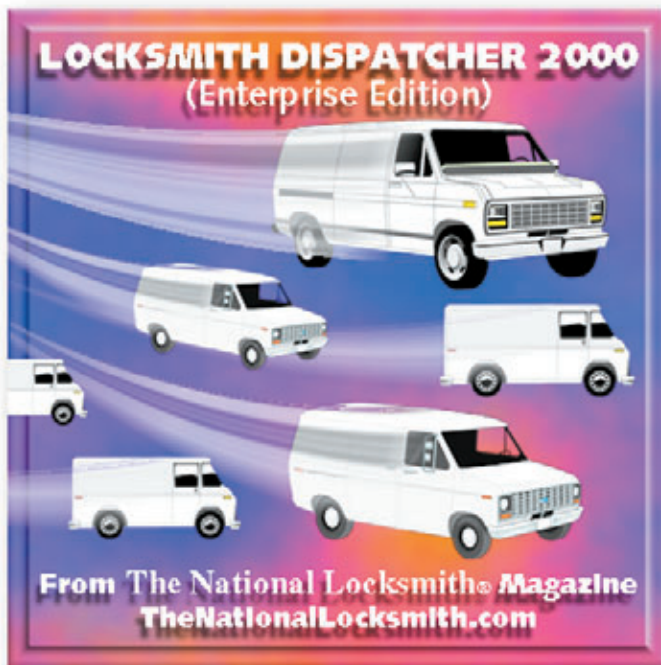
Vanamatic

I briefly mentioned Vanamatic in part 1. It is a specially coded lock that is resettable to eight different preset combinations. The Van Lock mortise cylinder, in photograph 8, uses the Vanamatic option. Most Van Lock products have the option of standard lock cylinder or Vanamatic. The numbered keys in the photograph represent two of the possible eight key combinations that

Continued on page 70



10. An electronically enhanced Vantech 21 cam lock.



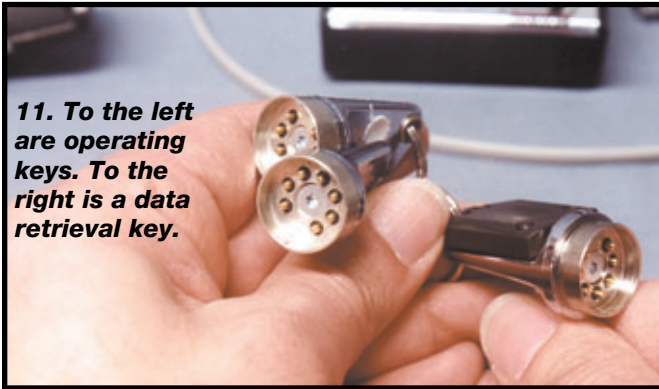
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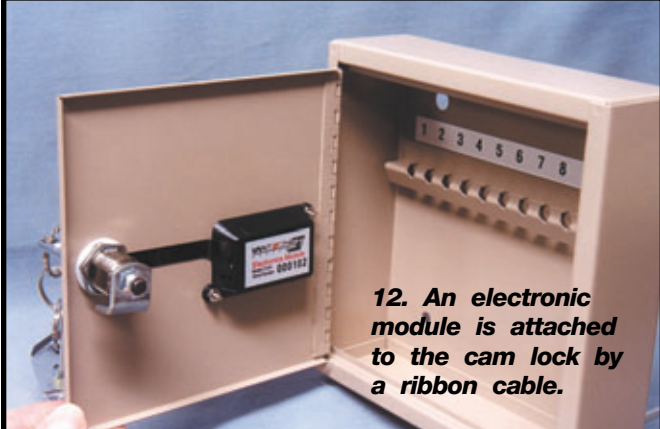
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Continued from page 67



11. To the left are operating keys. To the right is a data retrieval key.



12. An electronic module is attached to the cam lock by a ribbon cable.



13. Touching the KCD to a key port transmits audit data to your computer.

can be made to operate the lock cylinder. The concept is not unique. A few different brands of tubular key type locks are similarly resettable with their own trademarked name to identify the feature. Nonetheless, it is another good selling feature for Van Lock products.

Photograph 9, shows the difference between a change key at the left and a normal operating key. The change key is used to change or reset a pinning combination without lock disassembly. It lacks the two key guides who prevent a normal operating key from being withdrawn from the lock until it reaches a set pull position. Since the change key can be removed at any point, it is critical that resetting instructions be followed precisely.

First, you must insert the matching numbered change key to the current operating key. If #1 operating keys currently work the lock, you must use the #1 change key. Rotate the change key from the “home” position to 90 degrees clockwise (right), then remove the change key. Make sure all the pins are forward to the front of the lock face (to lock the chambers). If there are depressed pins that are set back in the chambers, re-insert the change in the same position from which you removed it. Slightly jiggle the key until it locks in the 90-degree position.

Next, insert the numbered change key, which matches the new, numbered operating keys for which you wish to reset the lock. The new change key should be inserted at the 90 degree rotated position

from where you removed the previous change key. Rotate 90 degrees counterclockwise (left) back to the “home” position, and remove the change key. Make sure all the pins are forward to the face of the lock and the chambers are locked in place. The matching numbered operating keys (to the numbered change key) should now work.

Vantech 21 Electronic Audit Series

Van Lock’s current venture into electronic audit capability, Vantech 21, only uses the electronics for lock and key auditing and tracking. The lock cylinders are mechanically actuated, not electronically. Consequently, it is very compact and can be placed in situations

where you might not typically find electronic audit locks.

Photograph 10, shows an electronically enhanced Vantech 21 cam lock on a metal box, and an electronic key reader that plugs into a computer’s serial port. Vantech 21 electronic keys come in a few different forms. The electronic key reader had two touch ports: one with a seven pin pattern and one with five pin. Vantech keys all have key pins for normal mechanical lock actuation, but they also have an electronic ID to be read by the lock (for audit purposes, not entry). Examples of Vantech keys can be seen in *photograph 11*. The two keys to the left are operating keys, and the one to the right is a data retrieval key (also known as a Key Collection Device or KCD). They are somehow insulated around the key pins so that while mechanical operation is accomplished, the electronic ID is sent to the lock. The KCD has an electronic storage device piggybacked to the handle of the key. Because it uses key pins, it can be also coded to operate the lock or it can be merely used to collect data.

Photograph 12, shows the inside wall of the metal box with the electronically enhanced cam lock. An electronic module is attached to the cam lock by a ribbon cable. The electronic modules are powered by watch type batteries, and have a built in clock that retains the date and time of day. When a key is touched to the lock, the key ID is recorded by the module, including the time and date of the transaction. If operated by a merely mechanical key, the transaction would be recorded as by an unknown key.

To retrieve information from a Vantech 21 unit, you would touch a KCD to a Vantech lock, which would cause audit data to download to the data retrieval key (KCD). Touching the KCD to a key port on the key reader, as in *photograph 13*, would transmit the audit data to your computer. *Photograph 14*, shows a Vantech 21 electronically enhanced mortise cylinder. It has a five pin configuration, as does its two operating keys and KCD. With this lock, it is possible to add audit capability to most any mortise lockset. The electronics are encased in the lock cylinder as opposed to the mortise lockset itself. A rear view

14. A Vantech 21 electronically enhanced mortise cylinder.



of the cylinder, in *photograph 15*, shows the module encased within a cavity in the cylinder. The circuit board to the right is the type used in the module for the cam lock. The mortise cylinder unit would be slightly more compact.

Another key similar to the KCD is shown in *photograph 16*. Instead of downloading data from a lock, this key is used to upload data such as programming time and date into a specific Vantech 21 lock unit. They

come in both seven and five pin variety and can be set up for use as mechanical operating keys, just like the KCD's.

Van Lock makes some very interesting products. If you need more information, you can write to them at: Van Lock, 6834 Center St., Cincinnati, OH 45244. Phone: 513/561-9692. Toll Free: 800/508-8010. FAX: 513/561-0314. Find them on the web at:

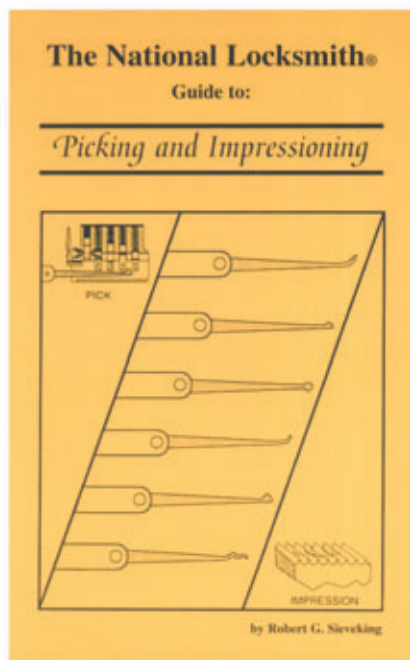
16. This key is used to upload data into a specific Vantech 21 lock unit.



www.vanlock.com. Circle number 323 on Rapid Reply.

*Occasionally, articles as printed will have some errors, such as wrong phone numbers, or missed toll free numbers that I didn't know about when I sent the article for publication. I recently put together a web page of my own and set aside a page for corrections of my technical articles. I figure if I can post corrections online shortly after publication, readers of The National Locksmith won't have to wait months to read the corrections. The Internet address is <http://home.earthlink.net/~lockwriter>. "Tech Article Addendum" is the page link for corrections. **TRL***

15. The module encased within a cavity in the cylinder.



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Opening a J Baum Double Door Safe

Sometimes you get called to open a real “Oldie but a Goodie.” The safe in question is a J Baum double door monster. If any safe qualifies for extreme safe abuse, this unit certainly did meet the criteria. The customer’s motto must have been to beat, pry, mangle, and pipe wrench the unit until nothing moved, and then call a professional. A picture of the dial on the right hand door and handle in the open position is shown in *photograph 1*.

What the picture does not show is the pipe wrench marks on the dial and the position of the handles when we (Little Tommy) and I got there. The correct open position for the handles is as shown in the photograph, but when we arrived, the handles were at 7:00 and 5:00 o’clock, not at the correct 4:00 and 8:00 o’clock positions. For some strange reason, the customer (a woman named “Bruce”) must have tried to open both doors at the same time, causing a doorjamb condition. More on this in a moment.

One of the first things I do when working on any safe is to count the wheels. This gives me a general idea of the locks working circumstance and the ease of dialing. Counting the wheels makes the customer think that you are going to dial open the safe, but in reality you are just counting the wheels. This is accomplished by dialing left four times in one direction and stopping at 50 (or any other number away from the drop-in position) and then turning slowly back and counting the pick-ups of the wheels when you approach your set number, in this case 50.

Well, on this safe, it was impossible to do. The dial was so tight I could not turn it in either direction. I then



BY DALE W LIBBY, CMS

noticed the pipe wrench marks on the dial and knew what had happened. I hinted around to Tom, to see if he would come up with the same conclusion as I did, but he had to see the inside of the lock first to figure it out. Sometimes, I jump to the correct conclusions, and in this case I was right, but withheld my council to see if I was really accurate in my early evaluation.

The safe doors were acting like those Chinese Finger toys you all had as kids. When you put your fingers in the woven tube they go in easily. When you try to pull your fingers out, the outward pressure locks your fingers in the tube and the harder you pull, the harder the puzzle keeps your fingers locked in the tube.

Normally when this happens, (both handles being turned together) the customer will realize that the inactive door (the left door on most double door safes) must be left locked until the active or right door is opened. This safe was far beyond that condition. The top of the door showed pry marks where someone was prying outward with a large crow bar and had effectively caused the door to wedge in the partly open and jammed position. Heaving the door with my shoulder did not move either door.

Part of the problem is the way the left door on these double door safes work. There is a bolt hole with a large flat bar above it in the inactive door. This is shown in *photograph 2*. The purpose of the blocking bar is to not let you throw the bolts by moving the handle on the right door unless the left door is secured in the locked position. When the left door is not secured completely, the bar is dropped into the blocked position, keeping the main bolt on the right door from entering the left door. (See *photograph 3*.)

I believe that this bar was thrown enough when they tried to open the door to catch the active bar on the right door and cause the *block out*. An apt term, meaning that the door was blocked from opening by the other door.

The door was easily 5 feet high and really wedged. Before we retreated to the truck for larger hammers (sledge variety), I opted to give the left door a flying double drop kick whilst Tom put pressure on the left door handle to get it to move back into the locked position. After moving a desk that was blocking the runway, taking a deep breath and trying not to laugh because our audience had no idea what we were doing, I ran and jumped my 320 pounds at the waiting diabolical door.

I only hit the door with one foot (my drop kick has suffered since my wrestling days) however, it was enough though. The left door moved back and the handle moved to the six o’clock position. While limping back to the safe, I turned the handle on the right door to the full open 8:00 o’clock position and pulled it open easily. The only damage was a wrenched back. Kicking the door seemed like a good idea at the time. Next time, I will opt

for the hammer. Drop kicking is not to be tried at home, and should only be performed by professionals.

The safe was only half repaired at this point. With the right door open, I took several shots of the J. Baum logos.

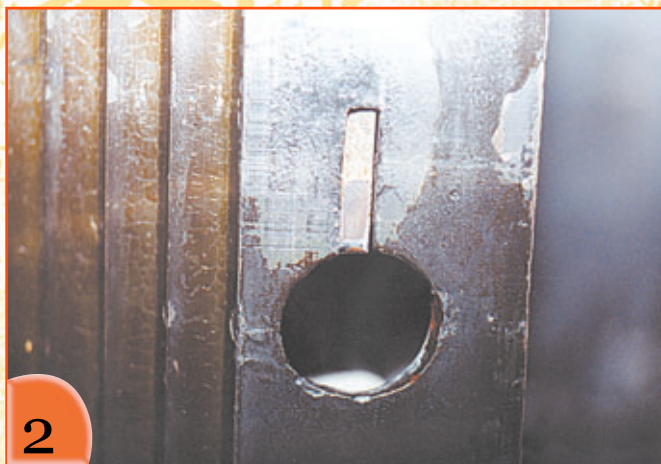
Photograph 4, shows the common lettered and Logo of J. Baum Safe and Lock Co. Cincinnati, O. The more interesting identifier is shown in *photograph 5*. It shows a naked torchbearer (man) bringing the torch to two fully clothed women. There is something across the top of the picture which alludes to a Merit and Gold medal at the 1914 Exposition. What is wrong with the picture? (Rhetorical) I will have to dig into my Mythology texts to see if I can identify the meaning of this picture.

We had the safe open, but the dial still did not move. We removed the curb with the wheel pack on it and were surprised to see only two wheels on the post. There was supposed to be



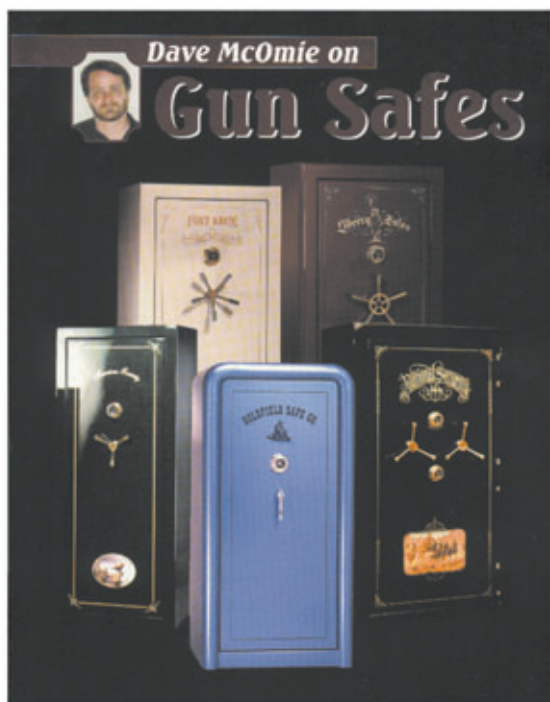
Photo 1:
J. Baum double door safe.

Photo 2:
Main bolt hole in left hand door.



four wheels.

Photograph 6, shows a lot. First, it demonstrates many important things about this type of lock. It is a YALE OB type lock. With this type of lock the combination is dialed so that the gates or the openings in the wheels are aligned at the 6:00 o'clock position (a few numbers to the left or right). When the gates are aligned, a large weighted bar caused the fence to move up into the opening. When this lever moves, it unblocks the bolt bar, and the outside operating handle can be moved to the open position.



Gun Safes

Need a drill point or relocker drill point on a gun safe?

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Photo 3:
Left door
in open
non-secured
position. Photo 4:
J. Baum
Logo.

is determined by the drive cam or wheel.

On this Baum safe there were supposed to be four wheels and one drive wheel, which is $4 + 1 = 5$. So the first turn should have been 5 times. Now we must determine right or left. By playing with the drive wheel in this safe, it was easy to determine that the last turn was right to PDS. We do not care what number is on the dial at the opening index. PDS is PDS, and should not be numbered. Holding the wheel pack, count directions backwards. The closest wheel to the driver (the last number of the combination) would be left, the next wheel right, the next wheel left, and the first wheel (farthest from the drive wheel) would be right.

Once you have done this a few times, you will not have to think about it. So the correct combination dialing sequence for this particular lock would have been five times right to number X, four times Left to number Y, three times Right to number Z, two times Left to number W, and 1 time right to PDS. Someone took a shortcut on this lock and removed the first two wheels and only left the centers intact.

This meant that there were only wheels three and four on the center post. Counting the existing wheels two, plus the drive wheel, the combination started out with Three turns to the first number.

Someone had set the wheels at the same number, so in effect this was a one number safe. When both wheels are set on the same number, they are counted as the

Simple, but many things can go wrong.

I did not want to remove all 30 screws to view the lock, so we did the servicing through the curb hole. Look to the lower right to see a large slot-head screw. This screw is the pivot screw for the OB bolt lever. In the photograph it is unscrewed. We lubed and tightened this screw so the bolt lever would not fall off. I know it is hard to see, there is a cut out in the drive wheel that is angled for a "Right to Stop." This means that when the combination is dialed correctly, the last turn of the dial will be to a PDS position. PDS stands for Positive Dial Stop. On my combination cards, I write the numbers for the combination and the last direction to turn the dial to PDS. Once you explain the reasoning, most customers will remember it.

Mosler and a few other safe manufacturers used locks that have a Left to Stop for the last turn, but these are not too popular today in newer safes.

How we determine the number of turns and the direction to correctly make the safe operate is a basic safe technician skill. Here is the way that I do it. I look at the wheel pack and count the combination wheels. I then look at the drive cam or drive wheel and add that to the total. Three wheels and one drive wheel or cam is $3 + 1 = 4$. This means that the first number of the combination has to be four turns either right or left. The first direction

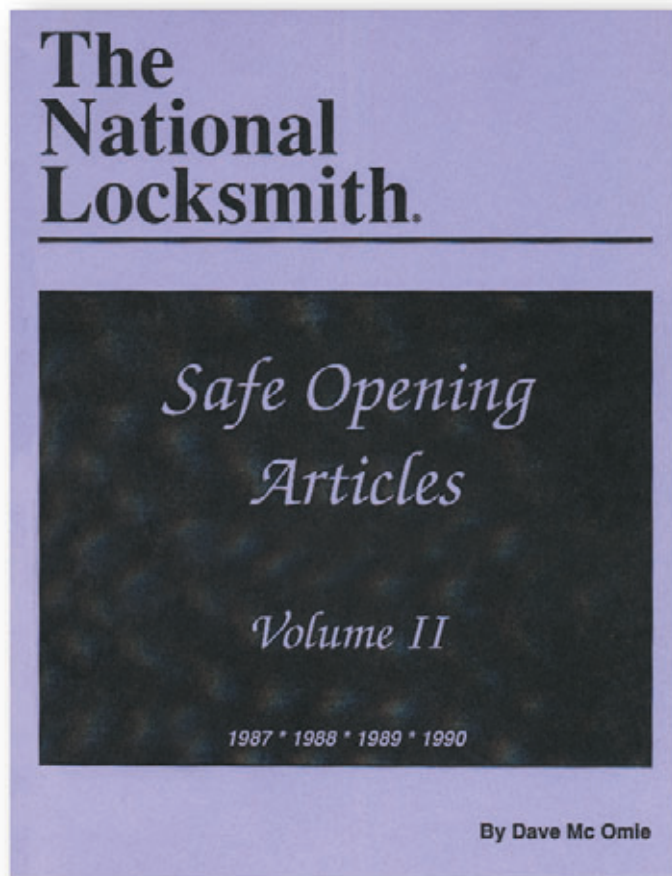


Photo 5: Classic J. Baum logos with patent dates.

Photo 6: Drive wheel of Baum YALE OB lock with OB lever in open position.



Safe Opening Articles



Dave McOmie's original articles from when he first started writing for The National Locksmith are reprinted in this book.

[CLICK HERE TO LEARN MORE](#)



Continued from page 74

same number for both wheels. Separate turns are not needed. So the combination for this safe was: Three times left to 76, then Right to PDS. A one number combination. This is all the church needed apparently, just a privacy lock on their ancient but well working safe.

Now the mystery of the non-movable dial, spindle, and drive wheel. As soon as Tom saw the drive cam and the spline key, he also knew instantly what had happened. Someone had dialed the correct combination and tried to pull both doors open at the same time. The safe doors jammed tightly together and a block out occurred. When the customer tried to move the dial right or left, it would not move. The lever was in the cutout in the wheel pack, and the OB lever kept the dial from moving.

When Tom looked into the wheel cavity, he saw the spline key was not in the correct position. Then had put so much pressure on the dial when turning it to the right, that is sheared the spline key as the dial tightened against the drive wheel.

The drive wheel was held in place by the end of the OB lever with enough force to shear the spine key. I had not seen this before. These older locks were really heavy duty and the spline key was the weakest point. After removing the spline key (a job in itself) I unscrewed the drive wheel from the spindle. I tightened the dial ring and reassembled the drive cam to the spindle, using a modified spline key to hold the drive cam in correct alignment with the spindle and wheel slots. The dial turned freely and it was now time to determine the correct combination. The curb position on this old safe was not critical. It could be installed in any position.

What I mean is that there were two screws to hold the curb and wheels onto the back of the OB lock case. The curb pack can be installed either way. The screw holes lined up at 9:00 o'clock and 3:00 o'clock. The position of the wheels and gates is determined by the drive wheel in relation to the movable wheel pack, and not by the positioning of the curb on the back of the lock.

So, open, do not drop kick safes unless you are a professional, and prosper!

TNL



THE CASH STATION

by Mark Daniel

LeFebure Money Chest



Safe Manufactured by:
LeFebure

Safe Size:
39" Wide, 38-1/2" High, 24" Deep.

Door Size:
37" Wide, 36-1/2" High

Handle Type:
L Handle

Handle Location:
2-1/2" Left of D/C, 5" Down.

Handle Rotation:
Counter-Clockwise to open.

Dial Location:
Dial center is 13-3/8" down from top of door and 8-1/4" from opening edge.

Number of Door Locking Bolts:
Two locking arms with two bolts each.

Door Locking Bolt Locations:
Bottom 6-1/4" & 8-3/8", Top 3-1/8" & 5-1/4" from opening edge of door.

Door Locking Bolt Diameter:
1"

Door Thickness to Bolt Center:
2-3/4"

Door Thickness to Lock Case:
1-1/2"



LeFebure Money Chest

Door Thickness to Back of Lock:
2-5/8"

Combination Lock Type:
S & G 6730

Combination Lock UL Rating:
Group 2

Combination Lock Description:
Three wheel, key-changeable lock.
Combination Lock Case Thickness:
1-1/8"

Number of Wheels:
3

Combination Driver Location:
Rear

Combination Lock Handing:
Right Hand (RH)

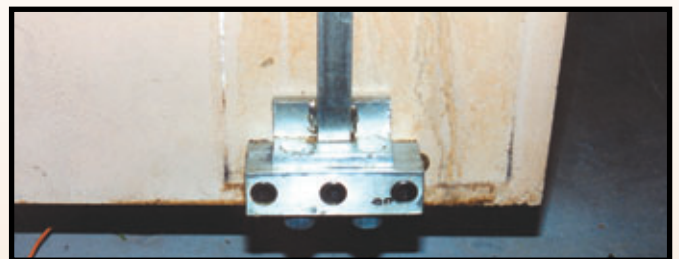
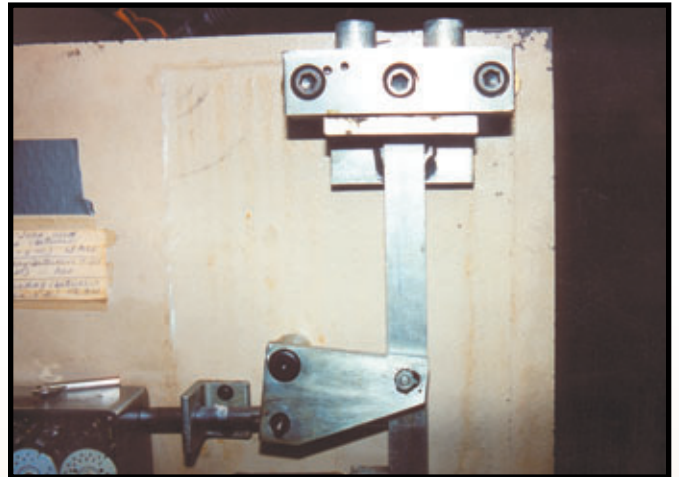
Combination Drop-In Location:
98

Forbidden Zone:
0-20

Combination Lock Opening Procedures:
4xL to first number.
3xR to second number.
2xL to third number.
1xR until dial stops.

Combination Lock Drill Point:
7/8" from dial center at 97. Align wheel gates at lever fence.

Combination Lock Relock Trigger Type:
Spring-loaded arm drops in lock bolt slot when lock cover is removed.



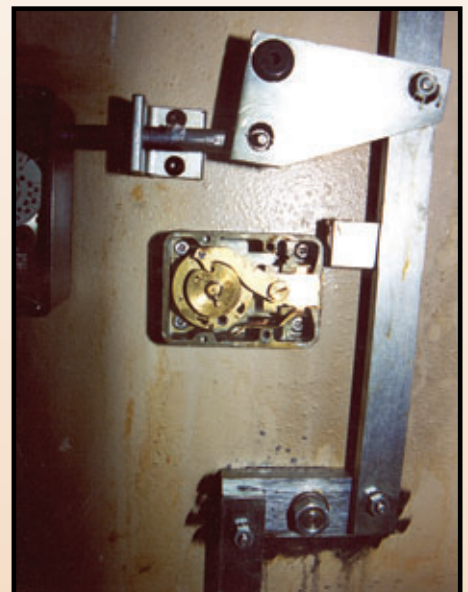
Combination Lock Relock Trigger Drill Point:

3/4" left of dial center, 7/8" down. Hook relock arm with a wire and pull towards you.

Combination Lock Changing Procedures:

1. Dial the existing combination to the changing index.
2. Insert the proper change key and turn it left 1/4 turn.
3. Dial the new combination to changing index.
4. Turn the change key right 1/4 turn and remove it.
5. Test the new combination at the opening index.

External Relock Device Type:
N/A



GM In-Dash Ignition Removal Tool

by Richard Allen Dickey

Starting in 1998 General Motors brought back the in-dash ignition lock in the Oldsmobile Cutlass and Intrigue as well as the Chevrolet Malibu. There have been a few articles written about the difficulty of removing these ignition locks, but as usual, someone has come up with a better idea. That someone is A1 Security Manufacturing Corp.

A1 Security first introduced their PS2 GM 10 Cut Column Ignition Pick Set in 1994. (See photograph 1.) The results were very impressive. To resolve the problem with the in-dash 10-cut ignition removal created by G.M., A1 introduced the PS3 G.M. 10-Cut In-Dash Kit in May 1998. (See photograph 2.) This kit will allow you to remove the Strattec(10-cut ignition lock from the dash housing for decoding with no damage to the lock. When the lock is decoded, stick the lock back in the housing and you are done. How did they do this? Let me tell you about it.

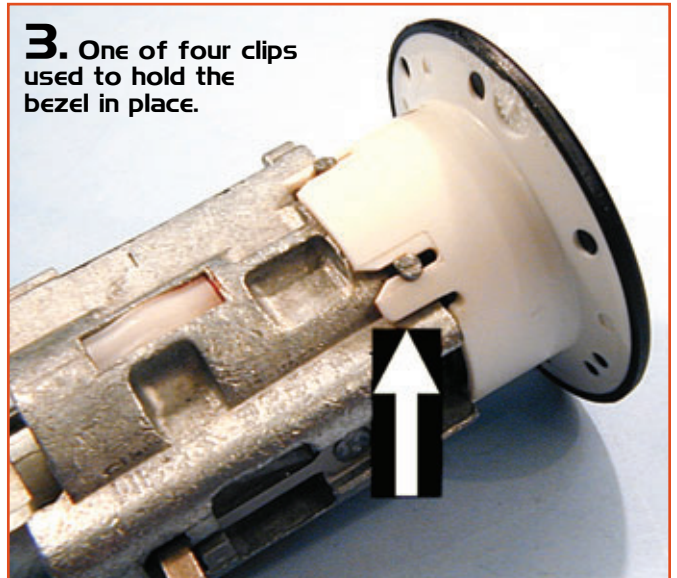
There is one thing to do before you start work on any ignition. Disconnect a battery cable. It really doesn't matter if it is the positive or negative. Either one will accomplish the same thing.

by A1

1. PS2 GM 10 cut column ignition pick set.

The Bezel for the in-dash lock is held in place by four clips that are on the backside of the bezel. (See photograph 3.) To remove the bezel without damage, A1 has designed a very simple, but clever tool. The tool has a brass tension knob on one

3. One of four clips used to hold the bezel in place.



4. The bezel removal tool included in the PS3 kit.



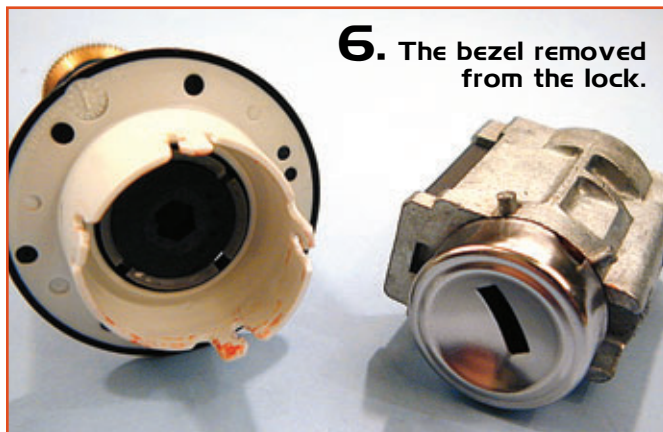
2. PS3 GM 10 cut in-dash ignition pick set.



end and the bezel grabber on the other end. (See *photograph 4.*) The outside of the tool is constructed of a PVC type material. The groove near the end that goes all the way around the tube. You will also see one of the four cuts in the tube. These cuts



5. The tool attached to the bezel of the GM in-dash ignition lock.



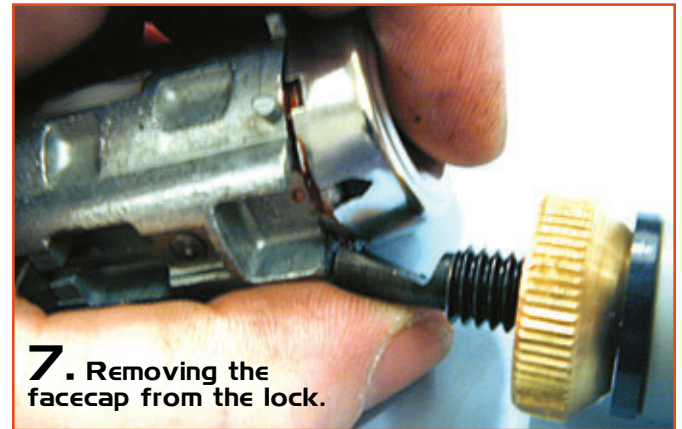
6. The bezel removed from the lock.

allow the tube to contract and expand. The beveled thing on the end of the tube is a long bolt that goes all the way through to the brass knob. When the brass knob is turned, the beveled bolt is pulled into the tube causing it to expand.

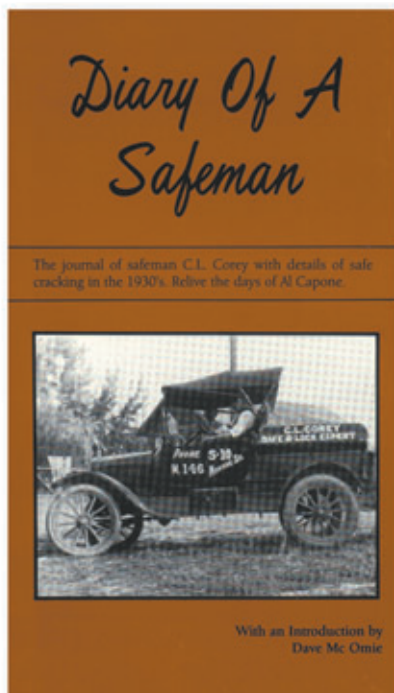
The groove in the end of the tube just happens to fit perfectly on the inside of the bezel of the lock. In *photograph 5*, you can see what the tool should look like when it is attached to the bezel. With the tool in place, a firm pull will remove the bezel without damage. (See *photograph 6.*)

The other end of the tool is used to remove the facecap on the lock. With this tool, the cap is easily pried off. (See *photograph 7.*) Although I am demonstrating with a lock that is not installed in a car, this gives a much better view of exactly what is happening.

Now that the facecap is removed, we have a lot better idea of what we are up against. To pick one of these locks, you have to apply pressure on the sidebar. To get to the sidebar you have to drill a hole in the face of the lock. To make sure



7. Removing the facecap from the lock.



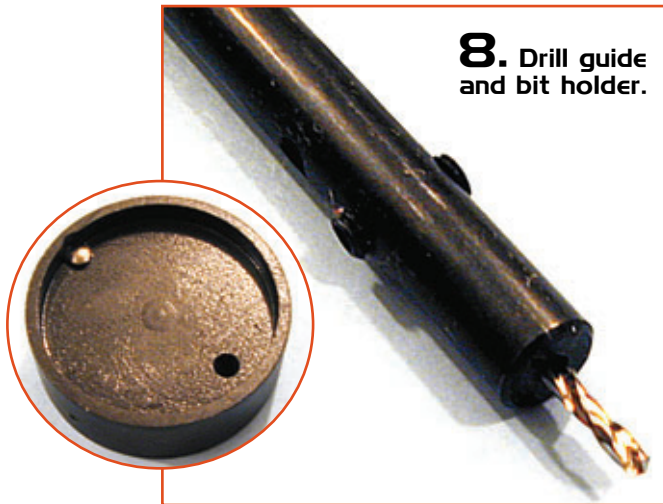
Diary Of A Safeman

This book is a real gem...the private safe diary of old time safecracker C.L. Corey.

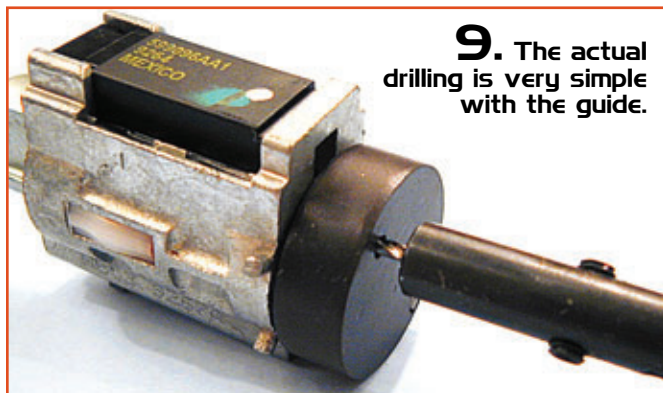
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#DIARY



8. Drill guide and bit holder.



9. The actual drilling is very simple with the guide.

the hole is in the right place and that it does not go too deep, A1 has designed a neat little drill jig and a special drill bit to go along with it. (See *photograph 8.*)

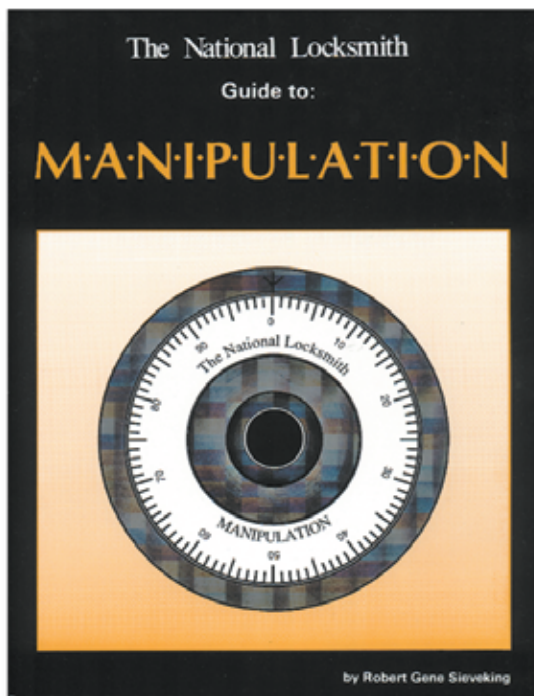
The drill jig is placed over the face of the lock by aligning the pin in the jig with the notch in the lock. This will give a perfect alignment with the sidebar. (See *photo-graph 9.*) Due to the design of the drill holder, the depth of the drill can be adjusted. The proper depth is .480 or just under 1/2". This is pre-adjusted from the factory. If the drill is broken, it can be easily replaced and adjusted for proper depth.

Before attempting to pick a sidebar lock, you have to apply pressure on the sidebar. By using a special tool you are able to apply the necessary pressure. *Photograph 10*, shows the proper position to insert the tension tool. If you notice, the tool handle is hanging straight down in the 6 o'clock position. By applying clockwise pressure on the tool handle, pressure is applied to the sidebar. Now you can start the picking process.



10.
The tension tool properly inserted.

To pick the lock, special picks are provided. (See *photo-graph 11.*) If you have both the PS2 and PS3 sets, this will give you a total of six different picks to choose from. Rocking the pick while



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#MAN - 1

applying light pressure to the sidebar will pick the lock.

Once the lock has been picked, rotate the plug clockwise until the rotation is halted by the tension tool. Remove the tension tool, but do not let the plug rotate in a counter-clockwise direction. If you do, you get to pick it again. Continue to rotate the plug until you are at something close to the "ON" position. This is where the second tool comes in.

The cylinder release tool is slid between the lock housing and the dash housing. The idea is to depress the leaf spring that holds the housing retainer in place. (See photograph 12.) The tool should be inserted so the curve allows the business end of the tool to curve against the lock housing, not the dash housing. A little inward pressure on the front of the lock will make it easier to release the retainer.

Once the lock is removed from the dash, two things can happen. You can use the code stamped on the housing if it is there, or continue to tear the lock apart and decode it. With the lock still turned to the "on" position, depress the plug retainer shown in photograph 13. The plug will slide out of the housing. Do this slowly because when the plug is free from the housing, the plug retainer is under spring pressure and it will try to escape. I promise that it can run faster than you, not to mention its ability to hide in small places undetected. If you don't believe me, just yank that plug out of there.

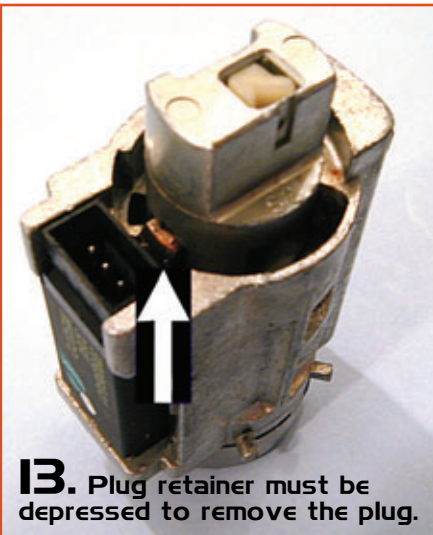
With the plug removed, all that is left is to decode the lock. With the PS3 kit, there is a depth gauge just for this purpose. The depth gauge has four marks that correspond to the four depths used with the G.M. 10-cut system. To use the depth gauge, the plug must be picked. If you are careful when removing the plug, a little finger pressure can hold the sidebar in place. If you slip, start picking.

With the sidebar fully depressed, slide the depth gauge into each tumbler cavity until the gauge rests on the top of the wafer. (See photograph 14.) The bottom line on the gauge is a #1 cut and the top line is a #4 cut. Continue this process until you read positions #1 through #9. The tenth position is not used in the ignition. The cuts start with #1 at

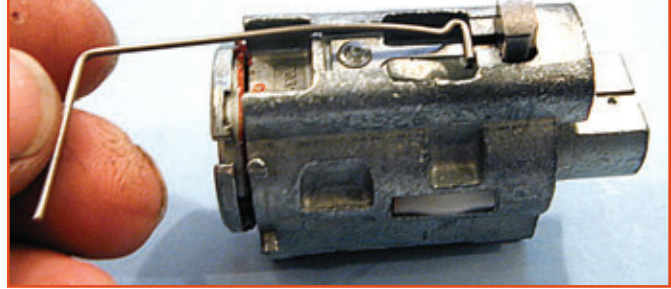
11. Four picks are supplied with the PS2 kit.



13. Plug retainer must be depressed to remove the plug.



12. The release tool depresses the retainer spring.



14. Reading the wafers with a depth gauge.




the bow of the key and #10 at the tip of the key. Nothing left to do now but to make a key and put the lock back together.

Slide the plug back into the housing. Next, replace the face cover. There are three small tabs that you should bend to allow the face cover to slide into place. There are three recesses that the tabs should be pushed into to hold the cover in place. Unless you are very rough with the removal of the face cover, it will still be serviceable.

Use the key to turn the lock to the "ON" position and slide the lock into the dash housing. Turn the lock to the "OFF" position and remove the key. Align the bezel tabs with the four posts on the lock housing. It will only go one way. Apply even pressure on the bezel and it will snap firmly into place. Don't forget to reconnect the battery cable before collecting your money.

After seeing a lock removal by tearing the dash of a car apart, there is no doubt that picking is the best way to go. The only problem is that the PS3 will only work on Strattec locks. There are three lock manufacturers that produce the in-dash ignition locks for G.M.. They are Strattec, Ortech and Huff. The Cadillac Seville uses the Huff lock. If you try to remove the faceplate (don't confuse the faceplate with the bezel) you will find that it attaches a little differently and will be damaged when removed. Luckily most of the automobiles that use the G.M. in-dash ignitions have Strattec locks. That's good news for us locksmiths!

If you would like more information about the PS3 G.M. 10 Cut In-Dash Kit or any other products offered by A-1, you can reach them toll free at 1-877-725-2121. Circle 332 on Rapid Reply. 

1997 Polaris Trail Blazer 250

1

This is the popular Polaris 'Trail Blazer' ATV. It sports a 250cc electric start engine.

by
**John
Blankenship**



Jimmy Benvenuti, owner/operator of Chiefland Locksmith in Chiefland, Florida contributed these photos and information.

2



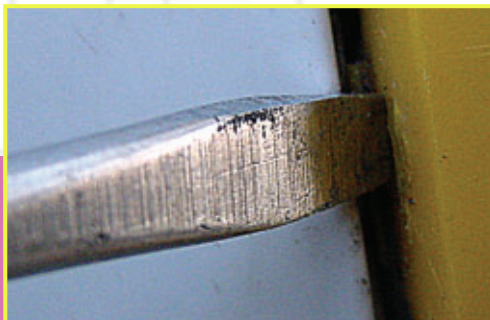
There is only one key lock on this ATV and that is the ignition lock. It is a two-position on/off switch. There is a separate starter button on the left side of the handlebars. Two lights indicate neutral and reverse; it will only start in neutral.

3



To remove the ignition switch you will need to remove the front panel. The oil reservoir cap has to be removed first.

4



There are 6 self-locking tabs that secure the panel. Gently insert a flat blade screwdriver into the slots and pry lightly outward while lifting the panel.

5



One of the locking tabs is shown removed from the locking slot.

6



The front panel has been removed.

7



You now have access to the back of the ignition switch with room to spare.



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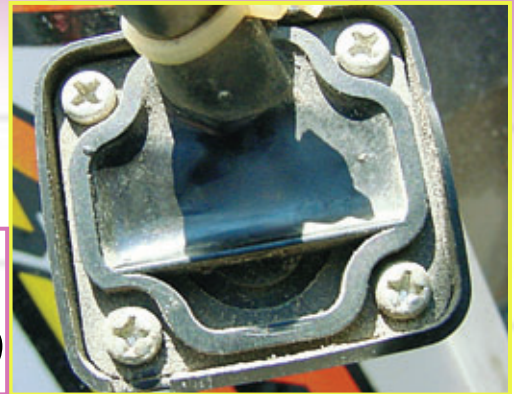


8



Remove the bezel nut from the front of the lock housing and pull it out from the rear.

9



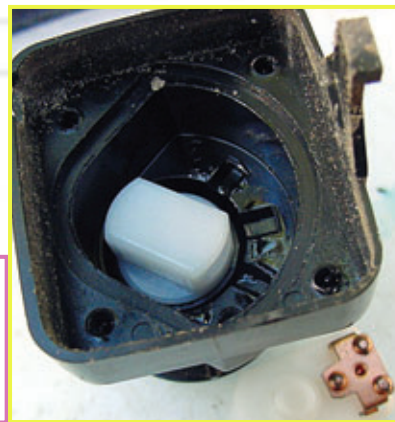
Once the ignition lock is out, remove the four screws on the back of the switch.

10



The back of the switch has been removed. Pull out the outer tailpiece with the electrical contacts on it.

11



Now pull out the inner tailpiece.

12



Now the retaining wafer can be seen. Depress it and push the plug out the front.

13



The plug is being pushed out the front of the cylinder.

14



The lock housing is shown along with the two tailpieces and the plug. The plug contains 5 wafer tumblers and the retainer. Insert a blank into the plug and read the height of the tumblers to determine the cuts.

Blank: Ilco:	X120 (YH46)
	Jet: X120
	Curtis: YM57
	Silca: YH28R
Spacing:	1=.157 2=.256 3=.354
	4=.453 5=.551
Depths:	1=.295 2=.276
	3=.256 4=.236
Card Number:	CMC80
ITL Number:	496
Curtis:	Cam: DC-1
	Carriage: SU-1C

15



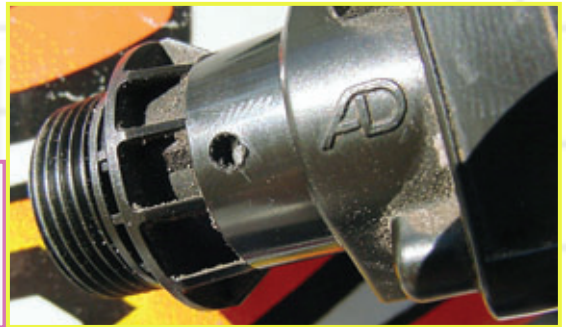
The dealer that brought the ATV to me also brought two original blanks; one is shown on the right. He asked if I could find a less expensive blank as these were costing him \$4.00 each. A code cut X120 with cuts of 31311 worked perfectly. There are four different blanks that fit the various Polaris keyways.

16



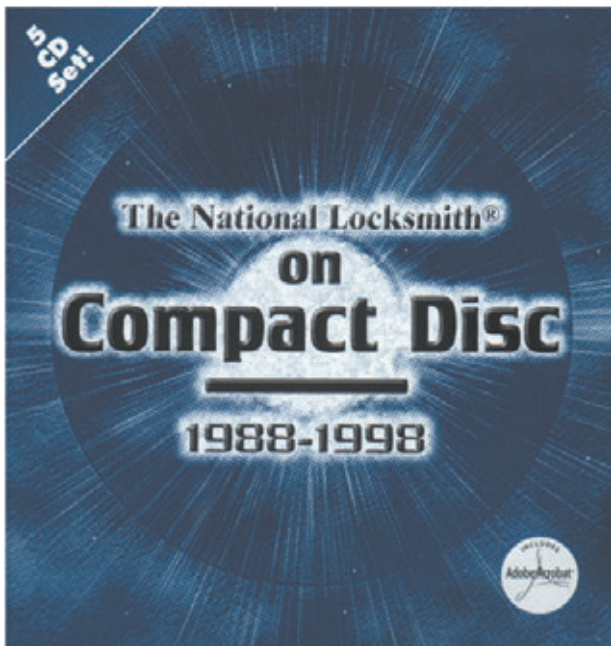
A possible code number, 7606, is stamped on the lock housing. If it is a code number, I was unable to find this code series for this lock.

17



The hole in the housing is not a poke hole since it is on the opposite side from the retainer and the plug will not turn 180 degrees.

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TECHNITIPS

YEAR-END PRIZES



Grand Prize

Silca Bravo Duplicator



1st Prize

*HPC's 1200PCH
Punch Machine*



2nd Prize

*Mas Hamilton's
PowerLever 2000*



3rd Prize

Curtis 2200 Duplicator



4th Prize

*SDC Magnetic Lock,
Keypad and Exit Switch*



5th Prize

*Securitron 12-Volt Unlatch Plug in
Trans & Touchpad Retail Value \$650*



6th Prize

LaGard "SmartGard"



7th Prize

Detex Advantex



8th Prize

*Arrow 400 Series Alarmed
Exit Device & S-75 Mounting
Plate Kit for Narrow Stile
Aluminum Doors*



9th Prize

\$500 in BWD Products



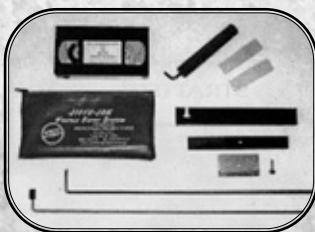
10th Prize

\$500 in ASP Auto Locks



11th Prize

\$500 in Strattec Auto Products



12th Prize

Tech-Train "Jiffy Jack"



13th Prize

*Sargent & Greenleaf 6120
Electronic Safe Lock*



14th Prize

*High Tech Tools
2000 Pro Set*

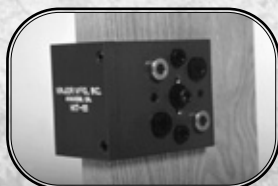


15th Prize

Slide Lock's Master "Z" Tool Set



16th Prize
ESP Products Sampler



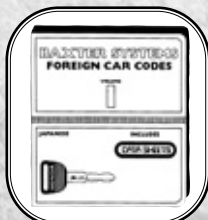
17th Prize
Major Manufacturing's
HIT-111 Drill Guide



18th Prize
Abus Padlock's Marine
Padlock Display (\$120 Retail)



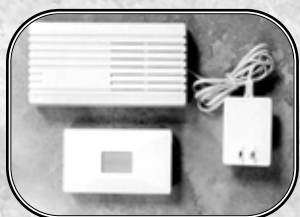
19th Prize
MBA USA, Inc.
Falle Pick Set



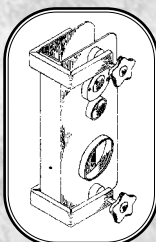
20th Prize
Baxter JV-1 & JV-5
Code Books



21st Prize
Sieveking Products
Squeeze Play



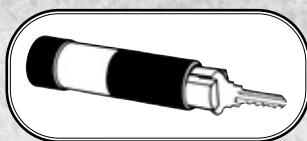
22nd Prize
Rodann's RV500 Wireless
Door Annunciator System



23rd Prize
A-1 Security Manufacturing
Installation Jig



24th Prize
Keedex Sampler



25th Prize
Framon
Impressioning
Handle



26th Prize
Gator Tool Multi-Purpose
Facecap Tool

These Prizes Awarded Each Month!

- BWD Automotive Ford or GM KwiKit
- Wedgeco™ Key Extractor Kit
- Strattec Racing Jacket
- HPC Air Wedge™
- Sargent And Greenleaf 4400 Series Safe Deposit Box Lock
- A-1 Security Products
- ILCO Key Blanks (100 Blanks)
- Keedex "SPIN OUT" Screwdriver
- Tech Train Training Video
- Sieveking Products Gm E-Z Wheel Puller
- Major Manufacturing Products
- Slide Lock's "Z" Tool Opening Set
- The Sieveking Auto Key Guide
- Jet Key Blanks (100 Blanks)
- High Tech Tools
- LaGard Combo Guard

Send in your tips, and win!

How To Enter

Send a tip on how to do any aspect of locksmithing. Certainly, you have a favorite way of doing something that you would like to share with other locksmiths. Write your tip down and send it to:

Jake Jakubowski, Technitips Editor,
The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107-1861

Or send your tips via
E-mail to: Natlock@aol.com

Rules & Regulations

Each tip submitted must include your full name, street address (no P.O. Box numbers), city, state, zip code, phone number, fax number or e-mail address.

Every Tip Published Wins

If your tip is published you will win one of the monthly prizes listed. At the end of the year, we choose winners from all the monthly tips published, that will be awarded one of the fabulous year end prizes. All you have to do to win is enter.

Prizes are arranged according to suggested retail price value.

Tips Start
on Next Page





**BWD KWIKIT WINNER:
Quick Key For GM
10-Cut**

Here is a quick way to generate a key for 1996 and up GM 10-cut ignitions when the seven cuts from the door are known, or can be determined.

If you make your quick key using tryout depths of 1-1/2 and 3-1/2, there are only four possibilities for the ignition and they can all be tried on one blank!

The code for your quick key is as follows:

S=1-1/2, D=3-1/2, K=Known Cuts and U=Uncut.

Side one of your blank would be cut: S-S-K-K-K-K-K-K-U. And Side two of the blank would be cut: S-D-K-K-K-K-K-K-U.

By leaving the last space uncut, the vise on your code machine can grip the key. After cutting the key try it in the ignition, if it does not work, take the uncut spaces down to 3-1/2 on both sides of the key, and try it again.

One of these four combinations will turn the lock.

*Everett L. Dobbs
California*



**WEDGEKO KEY
EXTRACTOR WINNER:
Converting an All-Lock
V.A.T.S. Decoder**

This is for those of you who own an All-Lock V.A.T.S. Decoder. Here is a fast and easy way to convert your decoder to also read double-sided keys.

First, remove the 9-Volt battery.

Second, you will see four Phillips head screws facing upward on the panel of your decoder. Remove these four screws. Once the screws are removed you can pull the panel up. Be careful not to touch anything behind it (i.e. circuit board) except the panel itself.

Now you will see a small chrome plate fastened by two Phillips screws directly under the ignition reader of the interrogator. Carefully remove the two screws to remove the plate. Place the panel back into the decoder and replace the four Phillips screws onto the panel.

Now your decoder has nothing blocking the passageway allowing for a longer double-sided VATS blank to enter and be decoded. Not bad for three minutes work, eh?

*Daryl Paternostro
Louisiana*

A Few Words From Jake...



**by Jake
Jakubowski**

I get a fair number of letters every year from readers who tell me they enjoy the Technitip column and learn something from it every month.

Well, I'll let you in on a little secret: So do I! I enjoy writing it, and I learn something from it on a regular basis.

I also get a lot of questions from readers, and one of the most frequent is: "Are you a real locksmith?" By that, I take it they mean: Do I make a living locksmithing, or do I make a living writing articles and editing a column like Technitips?

I am a full-time locksmith and make my living the same way most of you do. I repair locks, install deadbolts, install closers, door operators, service safes, and lots of auxiliary things like install hinges, door viewers, panic hardware and repair odd-ball locks or locking mechanism. And, I've been doing it for over fifteen years. Every now and again, like many locksmiths, I come across something that I have never seen before that might be different, unusual, interesting or just plain obvious. When I do, I like to share that information. So, here's a tip for you from me.

A customer's HON file cabinet would not lock. I removed the top drawer to inspect the mechanism and lock, and as far as I could see it was okay. However, every time I tried to depress the lock to lock the cabinet, the lock would only go in about a quarter of the way and stop.

If you've ever looked at the locking tabs on these units, the tab is about an inch or so high and about 3/4" wide. They're attached to a locking bar that moves upward when you depress the lock and the tab slides into a small slot on the top right edge of the drawer to secure it.

I figured that at least one of the tabs had to be bent or there was an obstruction preventing a tab in a lower drawer from seating properly. I removed the next drawer and tried to depress the plunger. It went all the way to the locked position. I had found the bent tab!

A minor adjustment with my Channel Locks® and the locking mechanism worked fine when I replaced the drawer.

Overly simple? Well, that depends on whether or not you ever worked on a HON file cabinet locking bar and mechanism before. For those of us that do it on a regular basis, no problem. For those that do it for the first time, it can be an interesting foray into uncharted territory.

See y'all next month. By the way... send me your trick, tip or idea. If I publish it, you'll get a prize. Let's see; what would I like this month? Just kidding!



**STRATTEC WINNER:
Returning the Favor**

It was after midnight when a call came to make a key for a 1987 Buick. I tried to convince the folks it would be cheaper if they waited until morning, but they wouldn't hear of it and said they needed it done right away.

Once I got to the job site I thought it would be a simple job. Just pull the steering wheel, yank the ignition, read the code, make a key, collect my money and go home. Yeah! Right!

When I pulled the ignition I noticed that it is an after-market ignition and I knew there were no codes on it. I

figured I'd just replace it and get on home to a nice warm bed. Wrong, again! I got to the truck and realize that I didn't have a replacement!

I decided to disassemble the old ignition, decode it, originate a key and reassemble everything. When I turned on the overhead light in the van and started to disassemble the ignition, I noticed some scratches on the housing that I had not seen in the dark. Whoever had replaced the ignition had scratched the key code on the housing!

So now, I return the favor whenever I can. When I install an after-market ignition in a car, I make sure the code is scribed on the

housing so that the next locksmith that has to disassemble the ignition on a cold winter's night, will have an easier time of it!

*Keith Schlesener
Texas*

Editor's Note: Keith, been there and done that. I've had my bacon saved many times by the thoughtfulness of the locksmith that preceded me on a vehicle. I have, as a matter of course, done as you have and it has paid off when I have, a year or two later, had to work on the same car!



**HPC WINNER:
Sawdust Catcher**

Here's a fast way to clean up the mess, after cutting the preps in a wood door for a deadbolt or cylindrical lock installation.

I insert the top portion of the box that the lock comes in under my drilling guide, with the box under the area where I'm cutting the cross bore. (See illustration 1.)

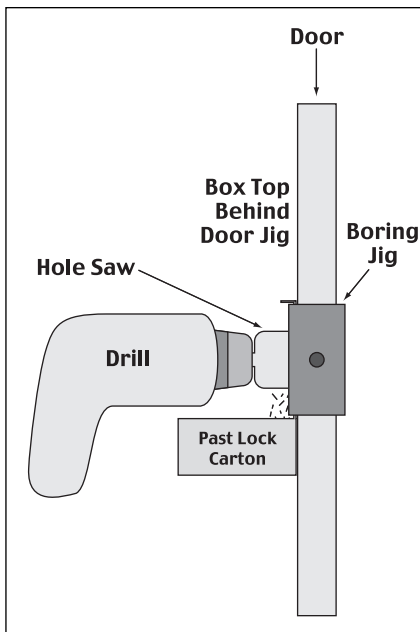


illustration 1.

Consequently, as I cut my preps, most of the sawdust, wood chips and debris falls into the box and not on the floor or carpet. This saves cleanup time, which allows me to get on to the next call faster.

*Ken A. Funk
Iowa*



**SARGENT &
GREENLEAF WINNER:
Flush Bolt Guide
Repair**

The inactive leaf on a double door storefront had a broken flush bolt

guide that was made of plastic. The bolts were square, which meant the guides, in the bottom and top of the locking stile of the door, had squared holes to match the bolts.

Since the repair had to be made right away, I didn't have time to go hunting for replacement parts, so I decided to fabricate what I needed.

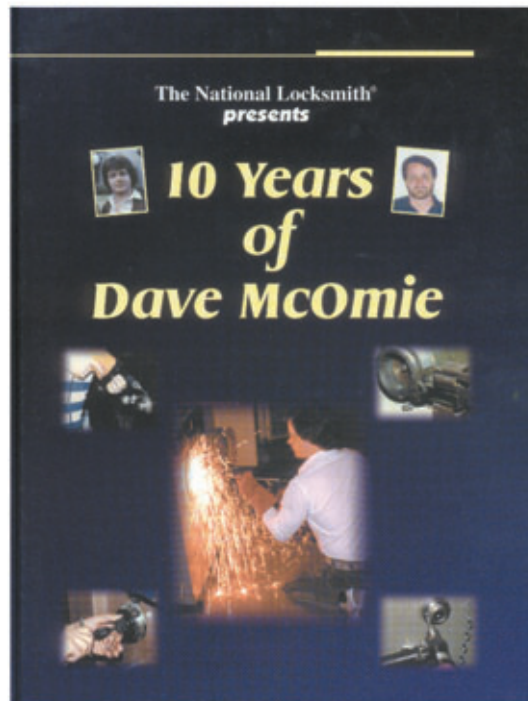
The top guide was cracked, but usable as a template to make a new guide. I placed the guide on a piece of aluminum angle and used an awl to trace the dimensions of the guide and the screw locations on the angle.

On the one side of the angle, I tapped for an 8-32 machine screw and on the other side I drilled a 3/8" starter hole where the square guide hole would be located. Next I used my router with a 3/16" bit to trim the hole square. I then made a second piece identical to the first, since the top guide would have to be replaced also.

My 4-1/2" cutoff saw made short work of cutting the angled aluminum to the proper dimension to fit into the door's stile.

*David Craig
Illinois*

10 Years of Dave McOmie



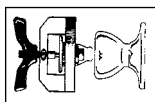
Every single National Locksmith article
by Dave McOmie from August 1986
through August 1996 under one cover!

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#DM - 10

Editor's Note: Dave, for future reference, KEEDEX makes metal replacement guides for this application. Check it out at their web site: <http://www.KEEDEX.com>.



**A-1 SECURITY
 PRODUCTS WINNER:
 Hard-To-Hold GM
 10-Cut Blanks**

If you have experienced difficulty holding the GM double-sided key blanks (P-106, P-107, P-109, etc.) in the jaws of your key machine, here's how I prevent the keys from "lifting" when being duplicated.

I use an Ilco 026 and whenever I

cut one of these keys, I use the "X" jaws to firmly grip the blank, and I gauge the key from the shoulder. I grip the key by the center milling. Actually, the key doesn't have a shoulder, but where the blade thickens, I consider that the shoulder.

I have cut dozens of GM 1-cuts this way without a problem.

*Dennis Petrin
 Oregon*



**ILCO KEY BLANKS
 WINNER:**

Nail Pouch Key Sorter

While using tryout keys, I used to

take the keys out of the box, try them, then place them in the top of the box. The problem was always where to place the boxes while working out of them. There simply never seemed to be a convenient place.

I solved the problem by purchasing a carpenter's nail pouch for \$1.00, at a local building supply store. The pouch is divided into two sections. In one I place the untried keys and in the other I put each key as I try it.

With the pouch is tied around my waist, it's at the perfect working level for me.

*Dick Lucey
 Georgia*

**KEEDEX WINNER:
 Jumping the Trunk Lock**

When there is no key available and you need to open the trunk (on cars with electronic trunk releases like Buick Park Ave., etc.), pick open the glove compartment, remove the light cover, and with a small mirror, look for the black wire which comes from the switch.

This wire will generally have enough slack in it to reach over to the light opening. Prick the black wire with a small safety pin attached to the hot-wire from a cigarette lighter adapter. (See illustration 2.)

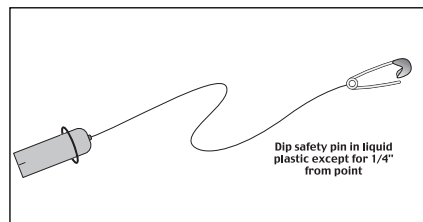


illustration 2.

When you prick the insulation of the light wire, this will energize the switch and the trunk will open. A little liquid plastic will repair the hole in the wire.

*Thomas J. McKinney
 Pennsylvania*

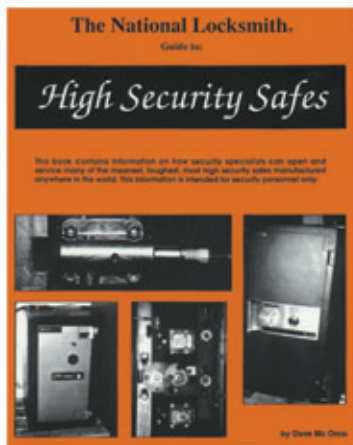


**TECH TRAIN TRAINING
 VIDEO WINNER:
 Traffic Builder**

I'm new to locksmithing and am looking for ways to help keep my name in my customer's mind.

Every time I install new locks or rekey old ones, I tell the customer that when they need extra keys, call me, give me their name, address and their own private "code" (which is the direct code for the lock), such as S

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#TIPS - 2

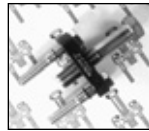
Continued from page 104

(for Schlage) 13657, and I'll drop the keys off the next time I come by their house or business.

Even at \$2.00 a key, I don't make any money delivering the keys but it gives me the opportunity to talk to the customer and find out if they need anything else.

I think it's a good traffic builder.

John Short
South Carolina



SIEVEKING
PRODUCTS GM E-Z
WHEEL PULLER
WINNER:
**Tax Chart for
Discounted Sales**

I may be the only one that finds this useful, but it is something that comes in handy quite often. I made a Tax chart with the computer and laminated it to the back of my invoice machine. (See illustration 3.)

The figures to the left are reverse taxes. That is, the principle and tax that will add up to a whole number. (Shown in the middle.)

The figures on the right represent a standard tax chart. The figure in the middle - plus the tax - and then the total.

On occasion I will give the elderly and others a discount by including the tax in a quoted price. This simplifies the task of accounting for the governor's share of my income.

Bear in mind that this chart is for Tennessee's (and Shelby County's) tax rate of 8 1/4%. I was able to use formulas in Excell to calculate the regular tax, but I had to use a calculator, with the + or - tax function, on it to figure the reverse tax.

Leo Kolugianes
Tennessee

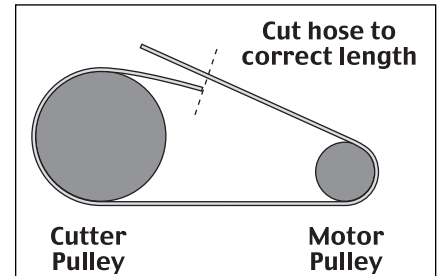


Fig. 1

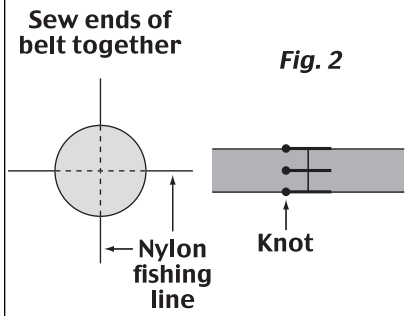


Fig. 2

Illustration 3.

Major
MANUFACTURING, INC.

MAJOR
MANUFACTURING
PRODUCTS
WINNER:

**Quick Key Machine Belt
Replacement**

Here's a quick, easy way to replace a broken key machine belt without

Sale	Tax	Total/Sale	Tax	Total
\$0.23	\$0.02	\$0.25	\$0.02	\$0.27
\$0.46	\$0.04	\$0.50	\$0.04	\$0.54
\$0.69	\$0.06	\$0.75	\$0.07	\$0.82
\$0.92	\$0.08	\$1.00	\$0.09	\$1.09
\$1.84	\$0.16	\$2.00	\$0.18	\$2.18
\$2.30	\$0.20	\$2.50	\$0.22	\$2.72
\$2.76	\$0.24	\$3.00	\$0.26	\$3.26
\$3.68	\$0.32	\$4.00	\$0.35	\$4.35
\$4.60	\$0.40	\$5.00	\$0.44	\$5.44
\$9.20	\$0.80	\$10.00	\$0.88	\$10.88
\$13.79	\$1.21	\$15.00	\$1.31	\$16.31
\$18.39	\$1.61	\$20.00	\$1.75	\$21.75
\$22.99	\$2.01	\$25.00	\$2.19	\$27.19
\$27.59	\$2.41	\$30.00	\$2.63	\$32.63
\$32.18	\$2.82	\$35.00	\$3.06	\$38.06
\$36.78	\$3.22	\$40.00	\$3.50	\$43.50
\$41.38	\$3.62	\$45.00	\$3.94	\$48.94
\$45.98	\$4.02	\$50.00	\$4.38	\$54.38
\$50.57	\$4.43	\$55.00	\$4.81	\$59.81
\$55.17	\$4.83	\$60.00	\$5.25	\$65.25
\$59.77	\$5.23	\$65.00	\$5.69	\$70.69
\$64.37	\$5.63	\$70.00	\$6.13	\$76.13
\$68.97	\$6.03	\$75.00	\$6.56	\$81.56
\$73.56	\$6.44	\$80.00	\$7.00	\$87.00
\$78.16	\$6.84	\$85.00	\$7.44	\$92.44
\$82.76	\$7.24	\$90.00	\$7.88	\$97.88
\$87.36	\$7.64	\$95.00	\$8.31	\$103.31
\$91.95	\$8.05	\$100.00	\$8.75	\$108.75

Illustration 4.

disturbing the settings of your machine.

I purchased some clear plastic vacuum hose from the local hardware store. I cut the tubing to fit my duplicator and then sewed the edges to the cut together with monofilament fishing line as shown. (See illustration 4.)

This repair only takes a few minutes and does not require readjusting the tolerances of the cutter.



William G. Bischoff
Wisconsin

**SLIDELOCK'S "Z" TOOL
OPENING SET WINNER:
Kia Key Blank
Substitute**

If you are faced with making a key for a Kia with the Y2000 code series (8-cut) that requires the X233 or X253 key blank, you can use a TR25 key blank as a substitute by cutting the shoulders back 1/8".

I had to make a key for a 2001 Kia Rio last weekend. I soon discovered that unlike the other Kia models, the Rio does not have a trunk release. Fortunately, there was a code on the customer's paperwork, which she had in the glove box.

Unfortunately, I didn't have any Kia blanks on my truck. I looked in my Auto Smart and saw the drawing of the key blank and soon figured out that a TR25 blank would slide in the lock.

When I tried to cut the key I saw that the distance between the shoulder and the tip was too short. I then cut the shoulders back 1/8", and code cut the key and sent a very happy customer on their way.



William Kimbley
California

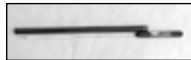
**THE SIEVEKING AUTO
KEY GUIDE WINNER:
Roll Pin Removal Tip**

I have read many tips about having to drill to remove roll pins to disassemble ignitions. The last Mitsubishi I worked on had three roll pins holding the facecap on. I removed all three without drilling.

I use a small round needle file to aid in removing these pins. I simply screw the tip of the file into the end of the roll pin until it gets a good bite. Then I gently pull the file up (keeping it straight) and away from the pin. The pin is usually on the end of the file or has been pulled out

far enough for me to grip it with my side cutter pliers.

You have to be careful not to break the tip of the file off. I use this method rather than drilling and have not had a problem with it so far.



Rodger Long
Illinois

**HIGH TECH TOOLS WINNER:
GM Wafer Removal Trick**

I find that the wafers on the old GM six cut ignitions are often hard to remove. After using a hook pick through the keyway and almost shooting myself in the eye with a wafer as it suddenly dislodged from the sidebar, I thought of an easier, and safer, way to do it.

I insert a key blank to raise the wafers high enough to grab with external ring Truarc pliers where the spring sits. It then comes out very easily this way.



Jason Appel
Oregon

**LAGARD WINNER:
Schalg Plug
Conversion**

I'm new to the business and don't carry a lot of merchandise on my truck yet, although I do try to add to it regularly.

I had a call to a dry cleaning store where the key was trapped in the plug and would not come out. Not being able to remove the key, I decided to drill the plug, unlock the door and change the mortise cylinder out. I only drilled partway into the plug when it began to turn. I turned it the rest of the way by hand, unlocked the door and removed the cylinder.

That's when I found out I did not have another mortise cylinder to replace the one I drilled. Realizing that I had only drilled the plug and the cylinder was not damaged, I decided to search for a replacement plug. The only thing I had was a Schlage 6-ping plug for a deadbolt.

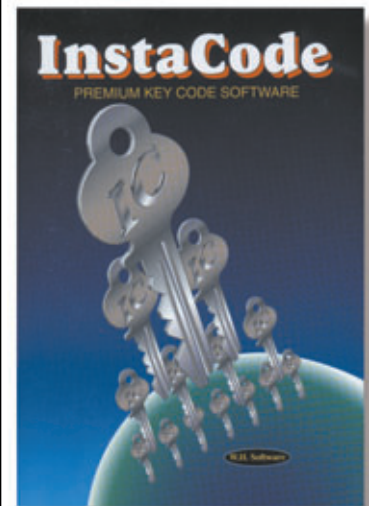
I used my grinder to cut the sides of the plug down about a quarter of an inch, leaving a ridge in the center on which to fit an Adams Rite cam. Of course, I had to drill and tap two retainer screw holes to attach the cam.

I keyed the plug up to the customer's key, assembled the cylinder and my modified plug, put the plug in the cylinder, put the cam on the plug and tried the key. It worked like a charm.

Kris Tatarian
California



InstaCode 2002



InstaCode 2002, the latest release of InstaCode, includes over 5000 code series covering general/utility, padlock, vehicle and motorcycles.

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#IC - 2002

BASIC ELECTRONICS

part 5



by
William C. Deutsch

Archimedes, the ancient Greek mathematician, boasted that he could move the world with a long enough lever. He never got to prove it, but the machines he designed did accomplish some things that seemed just as amazing.

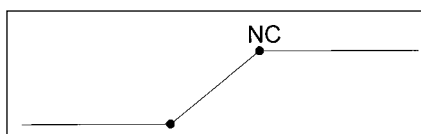
When you design an electronic access control (EAC) system, you may feel like you are being asked to move the world. But there is a simple electronic device that, like Archimedes' machines, will help you tackle the big challenges.

I am talking about the "relay," which is nothing more than a switch, operated by an electromagnet. So before we discuss relays, let's spend a few moments on switches.

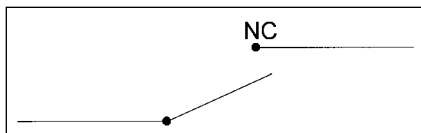
The Switch

We classify switches by the number of poles and the number of throws. The pole is the part of the switch that moves. When you press a door bell button, you are moving its pole. The throw refers to the number of contacts that the switch can make or break. In the case of the doorbell, the pole throws to one contact, and completes the bell circuit.

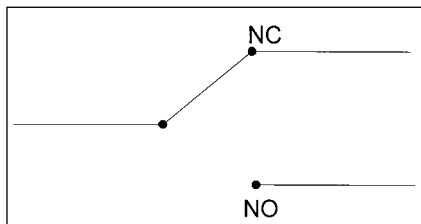
Illustration A, is a schematic diagram for the simplest type of switch. This switch has a Single Pole and a Single Throw (SPST). When you flip the switch it will break away from one contact. This is the switch to use if all you want to do is turn one device on and off.



A. A schematic diagram for the simplest type of switch.



B. The circuit is open and no current will flow.



C. A Double Pole, Double Throw (DPDT) switch schematic.

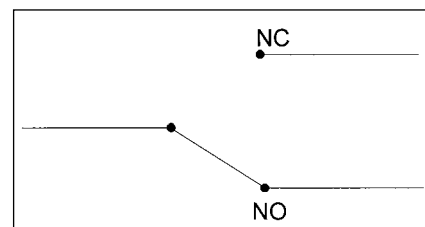
Illustration B, shows the same switch after it has been thrown. The circuit is open and no current will flow until the switch is closed again.

Illustration C, shows a Double Pole, Double Throw (DPDT) switch. It also has only one moving part, but when you throw the switch it breaks one contact, and makes another. With this switch, you could turn one device off and - at the same time - turn another on.

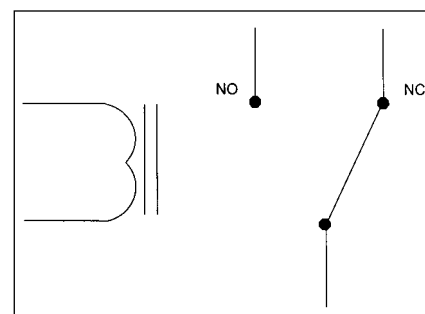
Illustration D, shows this same switch after it has been thrown. The connection between the Common (C) and the Normally Closed (N/C) terminals has been broken, so no current will flow. But there is now a path for current to flow between the Common (C) and Normally Open (N/O) terminals.

The Relay

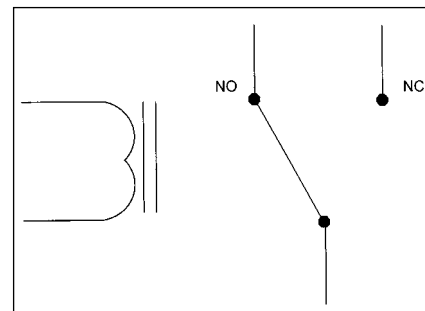
A relay is a switch that is operated by an electromagnet. Instead of



D. A Double Pole, Double Throw (DPDT) switch after it has been thrown.



E. Schematic symbol for a Double Pole, Double Throw (DPDT) relay.



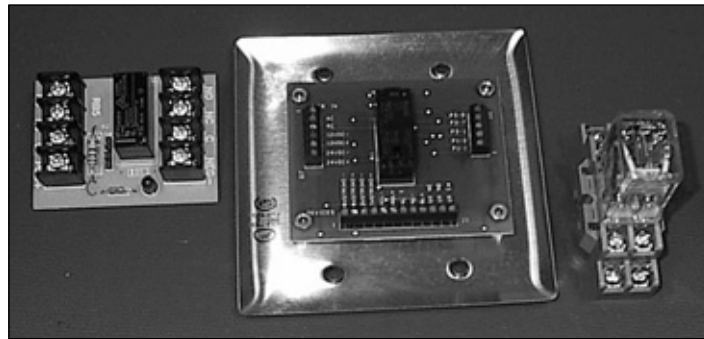
F. The pole has moved away from the N/C contact and is now touching the N/O.

Continued from page 108

pressing a button, you activate the relay by energizing a small electromagnet. The magnetic force draws the pole either open, closed, or both! As soon as power is released, the switch snaps back to its “normal” position.

Illustration E, shows the schematic symbol for a Double Pole, Double Throw (DPDT) relay. *Illustration F*, shows how the switch would look when the relay energizes. Notice that the pole has moved away from the N/C contact and is now touching the N/O.

Photograph 1, shows some of the relays you will encounter in your EAC work. They all look radically different,



1. Some of the relay examples you will encounter.

yet they perform the same service. Once you understand how relays operate, and how their terminals are

marked, you will handle any of these relays with ease.

How to Use a Relay

By now you may be wondering, “What’s the big deal about a simple switch?”

Glad you asked.

EAC controllers are designed to send power to an electric strike. The solenoid in the strike operates on the same principle as the relay. A control panel, then, can trigger a relay. A relay, in turn, can operate darn near anything. Get the picture?

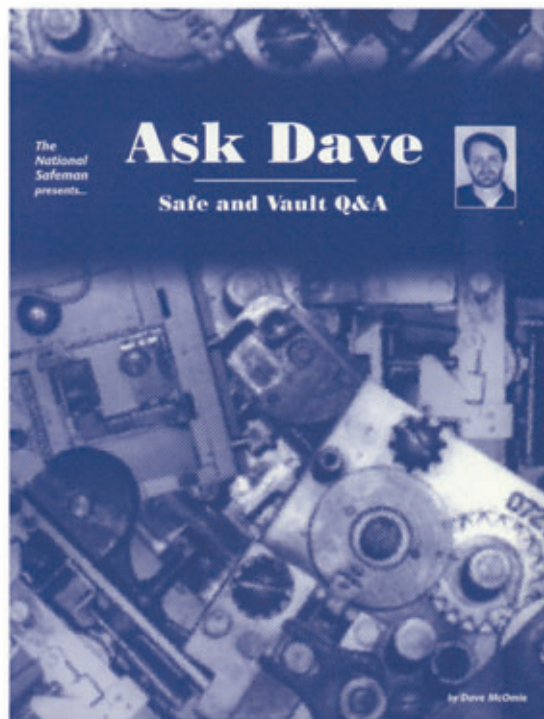
The Medeco SiteLine® controller is a very simple panel; you can tuck it away neatly into a double-gang electrical box. But I have seen it used in some very creative ways. *Photograph 2*, shows the SiteLine controller wired to an Altronix® relay. Instead of wiring the controller to the positive and negative power terminals on the strike, I have connected it to the positive and negative terminals of the relay’s coil.

Now imagine that you had a customer who owned a trucking company. (This is based on a true story, by the way.) His fuel pumps are outdoors, and he doesn’t want his neighbors filling their tanks at night. He also doesn’t want his drivers helping themselves to fuel when they are off duty. In short, he wants access control on his pumps.

You can solve his problem with the controller and relay shown in *photograph 2*. You would mount a reader outside the pump, and when a driver inserted his EAC credential, the relay would switch the power to the pumps. Now you have a fuel pump that can only be operated by an authorized user, during approved hours. And you have a record of everyone who operated the pump, and when.

You would probably need the help of an electrician, or fuel pump tech to pull this off, especially if it was your first “relay” job. But it’s good to know that this sort of thing can be done, and

Ask Dave

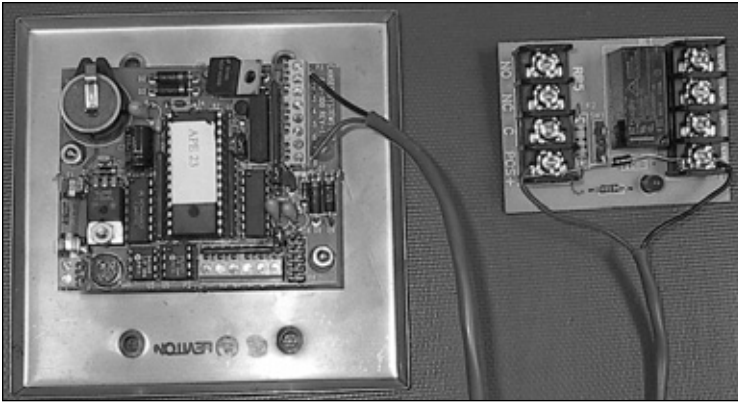


You asked. He answered. This is safe and vault Q&A with an attitude.

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#AD - 1



2. A SiteLine controller wired to an Altronix® relay.

it's very good to start imagining all the things you can accomplish with access controls and relays.

Choosing a Relay

How then, do you go about choosing the proper relay for the proper job? First, choose your coil voltage. The coil voltage specifies the amount of power needed to operate the coil. If your EAC panel provides 12 VDC to its electric strike, then you would use a 12 VDC coil.

Second, select your contact rating. The contact rating specifies the amount of current that you can run through the contacts when they close. 2.5 to 5 Amp contacts are common, and they will be adequate for most of your needs.

Finally, settle on a contact arrangement. The contact arrangement specifies how many switches the relay will control, and how they will operate. Refer again to *illustration E*, the schematic for a DPDT relay. Notice that there is one coil (represented by the bumpy line), but two sets of switches. When the relay energizes, both poles will move. They will break contact with the N/C terminals, and make contact with the N/O terminals.

One more real life example should cement the concepts we've been discussing. *Illustration G*, shows a wiring diagram for connecting an electronic access control (EAC) panel to a Medeco MagLock™. Terminals 1 and 8 on the controller are connected to the relay coil input. Terminal 8 goes to the positive side of the coil, and Terminal 1 connects to the negative. This is exactly how you would connect and electric strike to this controller. The positive side of the power supply connects to the relay C terminal and the positive side of the MagLock connects to the N/C contact. As long as the relay contacts stay closed, the

MagLock and power supply form a complete circuit. The Mag stays energized, and the door it protects is secure.

However, when the controller is activated, it energizes the relay coil

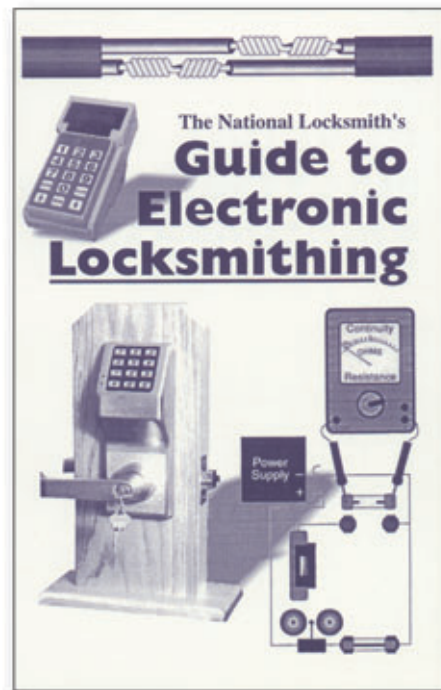
and pulls the pole away from the N/C terminal. This cuts power to the MagLock, and opens the door.

Two Safety Notes

To work safely with relays you must keep two rules in mind at all times:

First, always break the positive side of DC power lines. Look at *illustration H*. It is exactly the same as *illustration G*, except that the relay is now on the negative side of the line. If we had used the relay to break the negative side of the power supply line, the circuit would still work. But what if

Electronic Locksmithing

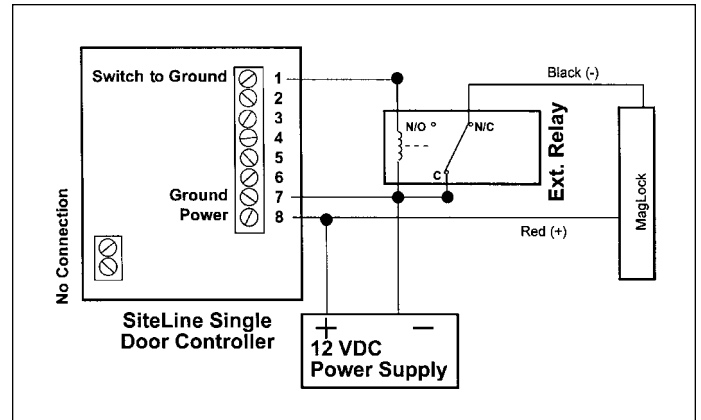
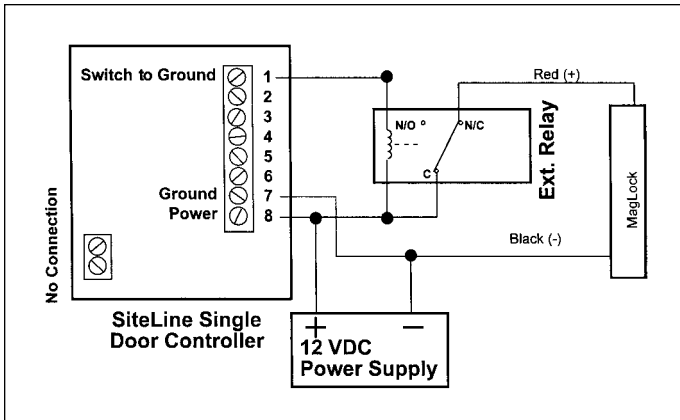


Everyone knows there's big money in selling, installing and servicing electronic security such as mag locks, electronic strikes, and simple access control.

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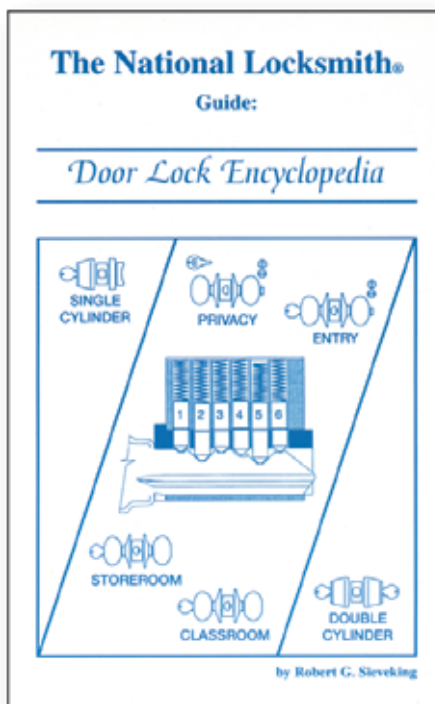
#EL - 1



G. A wiring diagram for connecting an EAC panel to a Medeco MagLock™

H. The relay is now on the negative side of the line.

Door Lock Encyclopedia



The ability to remove a lock from a door, disassemble the mechanism, and remove the lock cylinder for service is not always a simple straightforward task.

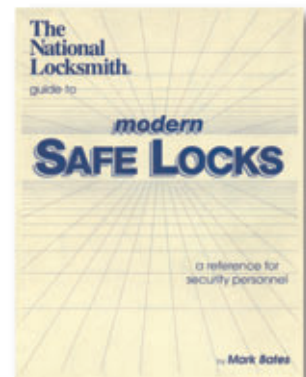
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#DLE

that wire ever shorts to ground (i.e. bare wire touches the metal frame of the building)? The Mag might not open when the relay fired because the circuit could still find a path through the building's frame. If you always break the positive wire, you avoid such problems.

Well, that's the skinny on relays. Now go out to your local electronics store, buy a few and start experimenting. Before long, you will be the Archimedes of EAC. You won't move the world, but you may just raise your reputation and revenue. In my mind, that's a lot more useful. **TNL**

Modern Safe Locks



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#MSL - 1

BEGINNER'S CORNER

Servicing Floor Closers, Part 2.

by
**Raymond
Moreno**

In the last segment, I told you we were gonna learn a little more about floor closers. Well, today I'm gonna take you with me as I go to a site, evaluate the situation, and remove some floor closers.

But first, a little background is in order. A customer called and told me

that his doors do not work. So, of course, I ask him to explain the problem to me in a little more detail. He tells me that there is a bunch of "oil" leaking from the ground underneath the doors. (This gives me a good hint that he has floor closers installed.) He goes on to say that one of his doors will not close (he has to force it closed) and the other door slams shut, which has already put a crack in the glass.

I grabbed my blue tights and red cape, and off I went to do my visual inspection. In *photograph 1*, you can see the doors in question. *Photograph 2*, is a close-up of the damaged closers. Fluid was leaking everywhere! There are also large gash-marks on the threshold of the left side closer. (See *photograph 3*.) By seeing these gashes, my incredible Sherlock Holmes brain deduced that they were caused by the "bottom arm screws" coming loose, causing the door to drag on the threshold.

Right off the bat, I knew that they would have to be replaced. Repair was an option, but how would the customer secure the doors while the closers were sent-off to be repaired? That, and the fact that these floor closers were over 50 years old, means the customer would be better served if they were replaced. They had to go.



1. The doors needing help.



2. Yea, they're leaking all right.



3. Here we can see the damaged left floor closer.



4. The arm cap was stamped Rixson.



5. Here we see that the spindle is offset by 3/4" inch.



6. Here we see that the spindle is offset 3/4" inch from the door jamb.

The first step is to remove the "arm cap" to determine exactly what I'm dealing with. (See *photograph 4*.) By looking at the spindle, and the big "arm locking screw," I get an idea of



7. A new Rixson offset floor closer.



8. Loosen the arm locking screw.

who the manufacturer is. (That and the fact that the arm cap said, "Rixson.")

The next step is to determine the offset distance, (see *photograph 5*) and

the distance from the door jamb to the center of the spindle. (See *photograph 6*.) Both of which are commonly $\frac{3}{4}$ " of an inch. This is why they are called offset closers, because they're "offset" $\frac{3}{4}$ " inch from the face of the door.

By looking at the spindle and knowing the offset distance of the closer and the door function (which was single acting), I know that it will have to be replaced with the Rixson 27 series floor closer. (See *photograph 7*.)

Because of this initial evaluation, I now have an idea of the door weight, the door thickness, and the amount of usage it would receive. I could now give the customer a "guesstimate" on the cost. Once they gave me the go ahead, the parts were ordered, and a date was set



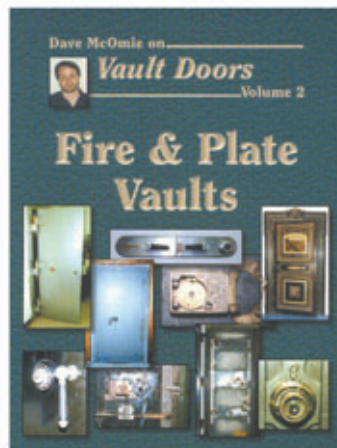
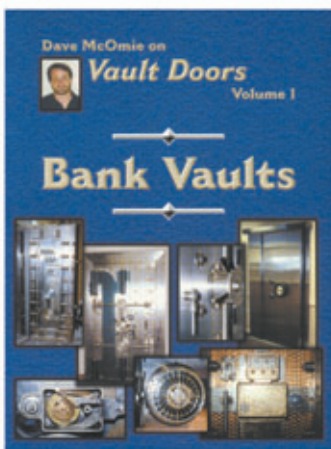
9. An old style top pivot.

to do the job. And now the story continues.

By this time, a few days have elapsed, the parts have been ordered and received, and I'm back at the site ready to do the job. Before I go on, I want to let you know that we will be discussing two different methods for removing doors. One will be for an "offset hung" door closer, and the other will be for a "center hung" floor closer. Let's start with my project, the offset hung floor closer.

The first step in removing the closer, (after the cap has been

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10. First remove the screw.



11. Tap-out the pivot stud.



12. This top pivot is a little newer than the last one.



13. The screw passes into the pivot stud.

removed) is to loosen the “arm locking screw.” (See *photograph 8.*) I’m using a special wrench made specifically for a Rixson floor closer. One end is used to loosen and tighten the “arm locking screw” and the other end is made to adjust the spring tension and also to move the closer spindle. For your information, a large crescent-wrench will work nicely on the “arm locking screw” and the



14. Here’s the new style top pivot.



15. Push-out the pivot stud.



16. Notice the O ring on the pivot stud.



17. Here’s the heavy-duty L180 pivot.

closer spindle.

Once the “arm locking screw” has been loosened, go to the top of the door and work on the “top pivot.” To shed a little more light on this topic, be aware that there is a variety of different offset hung top pivots that you will see in the field. I will show you three of the most common offset hung top pivots you will see.

In *photograph 9*, you’ll see the first



18. This screw is a dead-giveaway for a center hung floor closer.



19. A center-hung bottom arm on a double acting closer.

type of offset hung top pivot mounted on the door I was working on. This model of top pivot is very, very, old and is a handed pivot. (You had to order them either, left-handed, or right-handed.)

To remove the door from the pivot, you have to unscrew the screw on the side of the pivot, remove the screw (see *photograph 10*) and push-out the “pivot stud.” (See *photograph 11.*)

Next you will see the second style of commonly found top pivot design. (See *photograph 12.*) This is also an older version, (but newer than the last top pivot) and also comes handed. But, it is disassembled a little bit differently than the last top pivot. The large screw on this style of top pivot will always be on the bottom side of the pivot. You will have to eject the “pivot stud,” downward to remove it.



20. A center-hung bottom arm on a single acting closer.



22. The shim plate that gets attached to the door itself.



23. The pin part enters a slot in the bottom arm.



21. The adjustment screws.

(See photograph 13.)

Lastly, a new style top pivot can be seen in *photograph 14*. To remove the door from this style of top pivot, you'll need an Allen wrench to unscrew the

"hex caps" on each end. Once that's done, you can push-out the pivot stud. (See *photograph 15*.) If you look closely at *photograph 16*, you'll see a black "O" ring that fits snugly into a little groove in the pivot stud. This "O" ring is used to keep the pivot stud from rattling around, and to help keep it in place.

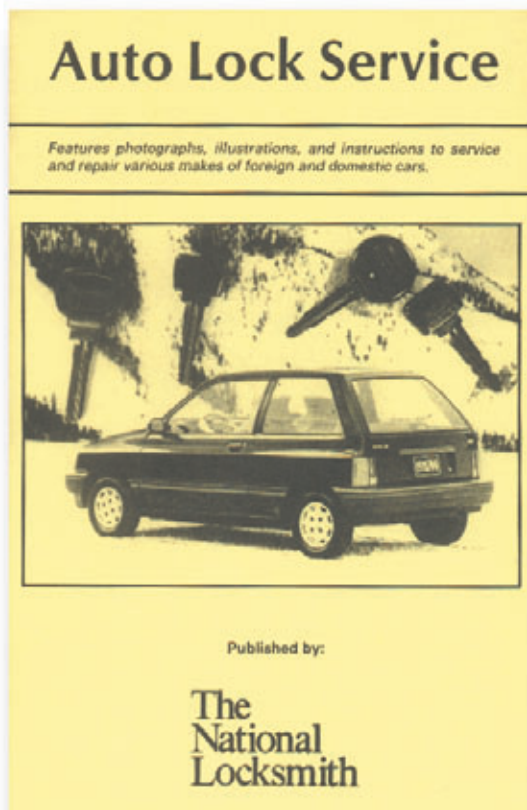
I'll also show you a photograph of an L180, heavy-duty top pivot. It's used on heavy, lead lined doors. (See *photograph 17*.)

Now we're gonna see how the hardware on a center hung door operates. What is the best way to identify a center hung door? Well, take



24. That's a center hung 340 top pivot.

a look at *photograph 18*. Here you can see a very conspicuous screw on the bottom face of the door. This screw is the tell-tale sign of a center hung floor closer. (Actually there are two of them). Those are called "adjustment



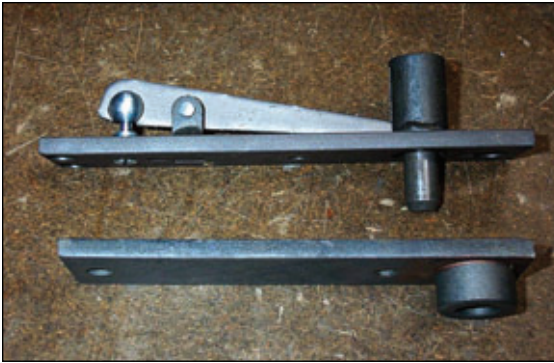
#ALS - 1

Auto Lock Service

Covers opening and service techniques.

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25. There are two parts to this top pivot.



26. Remove the finishing plate and look for this adjustment screw.

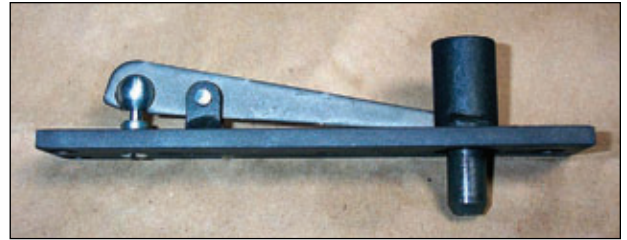
screws." There will be one screw on each side, on the lower face of the door.

In *photograph 19*, you will see a center hung bottom arm on a double acting floor closer. This means that

the door will open with either a "push" or "pull" motion. In *photograph 20*, you will see the same bottom arm mounted on a "single acting" floor closer. (Which means that the door only opens in one direction.) In *photograph 21*, you will see the two screws that I was talking

about. Those are the "adjustment screws" and are used to center the bottom arm within the cavity of the door. These two screws must be removed before you attempt to remove the door. Doing so disengages the bottom arm from the door.

In *photograph 22*, is the "shim plate" laid across the top of the bottom arm. The shim plate will actually be



27. The lever and fulcrum that it pivots on.



28. The adjustment screw turned making the pivot stud retract.

mounted onto the bottom of the door. In *photograph 23*, you can see how the shim plate has a "pin" which fits into a hole in the bottom arm. Once the shim plate is fastened to the bottom of the door itself, it's just a matter of setting the pin into the bottom arm of the closer, and using the adjustment screws to center the bottom arm in the door.

Now the top pivot of a center hung floor closer. In *photograph 24*, is the

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model 340 top pivot. This is the standard top pivot for Rixson center hung floor closers. As you see it is two separate pieces, the top pivot jamb portion, and the top pivot door portion. (See *photograph 25*). The top portion gets fastened to the header (or jamb)



29. You can now tilt the door outward from the top.



30. You can free-up the bottom of the door using various methods.

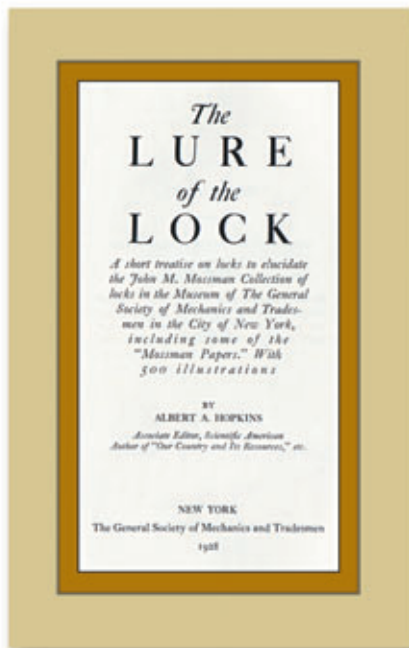


31. The bottom arm with the screw.

and the bottom portion gets fastened to the top of the door itself.

In *photograph 26*, we see the top pivot jamb portion. (The part that gets fastened to the header.) Here I am pointing to the adjustment screw on the bottom of it. When you come to a center hung door, look up at the header of the doorway and look for a brass (or stainless steel) finish plate. Remove the finish plate and look for this screw. You can clearly see that by turning the adjustment screw in one direction, a lever will pivot on a fulcrum and raise the pivot stud. (See *photograph 27*.) By turning the screw in the opposite direction, you are able to drop the pivot stud. (See *photograph 28*.)

Now you know how to loosen the top pivots of a center hung door, or an offset hung door, which is the first step in the door removal process.



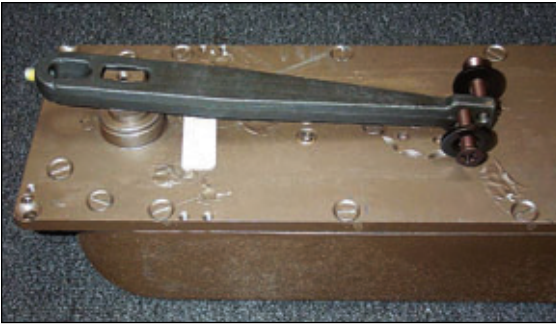
The Lure of the Lock

This hardcover book, compiled in 1928, features dozens and dozens of beautiful photographs on ancient through modern locks.

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#LURE



32. The bottom arm without the screw.

Recap

So let's back-up a moment and recap what we've learned so far.

If you are prepping the bottom of a door that's using an offset hung closer, first remove the arm cap and then loosen the arm locking screw from the bottom of the door. (Using that special wrench, remember?) If you are removing a center hung closer, remove the two adjustment screws from the bottom arm of the door.

The next step is the top pivot. If it's for an offset pivot use one of the three methods outlined earlier to remove the pivot stud from the top pivot set. If it's a center hung pivot set, look for the finishing plate in the header, remove it and turn the screw to retract the pivot stud. Now let's take a look at *photograph 29*. Here the bottom portion of the door has been freed-up as well as the top portion. Since there is no pivot stud to hold the top of the door in place, push the top of the door outward and hold it

in this position. Do not tilt the door outward too much or the bottom spindle of an offset closer might get damaged.

Now we gotta free up the bottom of the door. As most of you can imagine, it will sometimes be jammed solid. But there are a few different ways to free-up an offset

adjustment screws from the bottom arm. Some folks will place the bottom arm onto the spindle without fastening it. I've heard of people who do not remove the adjustment screws and just try to lift-out the whole bottom arm with the door. If the bottom arm is not screwed onto the spindle, that's OK. But if it is you stand a good chance of damaging the closer, or the door. And there's no way of telling if it's attached or not.



33. A view of an offset hung bottom arm.



35. The threshold removed and a view of the floor closer.

hung door from its bottom spindle.

1. You can give it a good shot of

penetrating oil. Liquid Wrench works great!

2. You can give it a few soft raps with a hard object to jar it loose. Be careful though, you don't want to break the glass.

3. You can use an Air Wedge. I love to use my universal Air Wedge to work on doors, but I was too lazy to walk to my van and get it.

4. You can rub a greasy McDonald's French fry all over the spindle. Oops...sorry. I was thinking aloud.

5. You can do what I did and carefully used a Wonder Bar to work it free. (See *photograph 30*.)

As a side-note: if you're working on a center hung door, make sure to remove the two

Photograph 31, is an example of a bottom arm screwed onto a spindle. *Photograph 32*, is an example of a bottom arm not screwed onto the spindle.

Now that the door is finally off, we can see the different parts. In *photograph 33*, you can see the bottom arm of the offset closer. It looked a little rough, but was still in good working order. I chose not to replace it, and just cleaned it up. In *photograph 34*, you can see the bottom spindle of the floor closer. To access the floor closer, I had to remove the threshold that was covering it. And for your information, the threshold is only held on with screws placed into shields or lag shields. Occasionally a construction worker (or some other "Freddy Kreuger" person) will goop on a whole tube of Liquid Nails to fasten-down the threshold. If you've ever come across one of those situations, (like I unfortunately have), you're in for a WWF Smackdown, battle!

Once the threshold is removed, you have a good view of the floor closer. (See *photograph 35*.) I don't know if you're aware of this, but when things have been sitting for a while in damp, wet, conditions, they tend to get smelly and filthy McNasty! This



34. A shot of the spindle after the door has been removed.



36. We say bye-bye to the old closer.

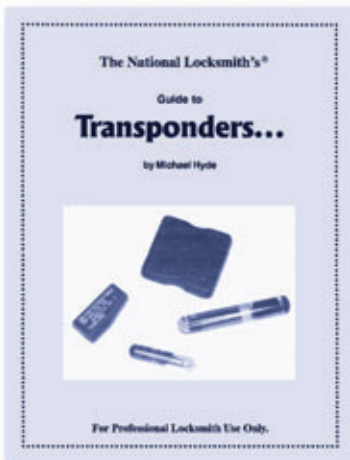
closer was no exception. Now all I had to do was unscrew the four screws on each corner and pull "Chunky" out from its cement casing. (See photograph 36.)

That was it. You've now seen, and learned, how to remove a door from a variety of different floor closers. (Offset and center hung.) And in the last segment to come, I'll show you how to replace it with a new one. Huh, what's that? Couldn't we just reverse the process? Yea... kinda. But there are a few more tricks you'll need to know before you can be the Master.

Till next time, folks. Same Bat-Time... same Bat-Channel!

TNL

TNL's Guide to Transponders

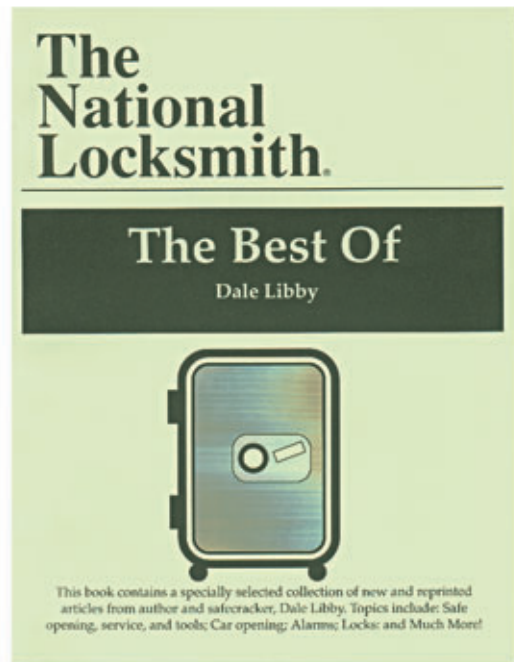


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#TS - 2001

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#DALE

KEY CODES

The HPC 1200CMB and
1200PCH code cards for this
code series are between
pages 118 & 121.

2001 Dodge Stratus F0001-F1571, Part 2

Manufacturer: Mitsubishi for Dodge

Code Series: F0001 - F1571

Key Blanks:

Ilco: Y160CHT-PT

Ilco EZ: Y158-NP

Jet: Y160C-PHT

Strattec: 599450 or 690226

Number of Cuts: 8

M.A.C.S.: 2

Key Gauged: Tip

Center of First Cut: .985

Cut to Cut Spacings: .083

Cut Depth Increments: .025

Spacings: 1 - .985, 2 - .902, 3 - .820, 4 - .737,
5 - .655, 6 - .572, 7 - .491, 8 - .407

Depths: 1 = .327, 2 = .302, 3 = .276, 4 = .251

HPC 1200CMB

Code Card: CF306

Jaw: A

Cutter: CW-1011

Gauge From: Tip

HPC 1200PCH (Punch)

PCH Card: PF306

Punch: PCH-1011

Jaw: A

HPC CodeMax

DSD #: 167

Jaw: A

Cutter: CW-1011

Curtis No. 15 Code Cutter

Cam-Set: DC-5

Carriage: DC-5A

Framon #2

Cuts Start at: .407

Cut to Cut Spacing: .0825

Block #: 5

Depth Increments: .0255

Cutter: FC9040

Key Clamping Info: Use tip stop.

F1001 23121211	F1034 43133443	F1067 21233233	F1100 13242223	F1133 44421211	F1166 34343242
F1002 13312342	F1035 31324222	F1068 42443332	F1101 43434313	F1134 42424342	F1167 24212323
F1003 34244242	F1036 32234443	F1069 23442433	F1102 32332213	F1135 22331323	F1168 24423433
F1004 24233113	F1037 33213421	F1070 33122332	F1103 32444242	F1136 42322123	F1169 31121243
F1005 44423431	F1038 24233122	F1071 34433242	F1104 12423133	F1137 12423232	F1170 13122121
F1006 34223131	F1039 33342442	F1072 32324212	F1105 42212111	F1138 23323213	F1171 23112121
F1007 32242321	F1040 23242213	F1073 42311233	F1106 42334243	F1139 42323131	F1172 22334443
F1008 33422443	F1041 31334221	F1074 34234432	F1107 32424442	F1140 13334221	F1173 34212331
F1009 42332122	F1042 42424423	F1075 12131221	F1108 44422342	F1141 31232323	F1174 12424231
F1010 33423121	F1043 12223111	F1076 24223231	F1109 44423323	F1142 32313322	F1175 22434343
F1011 13213423	F1044 23233123	F1077 24244333	F1110 12433113	F1143 11123243	F1176 24423442
F1012 24223213	F1045 23312233	F1078 33434431	F1111 42213133	F1144 24313311	F1177 42424432
F1013 21312112	F1046 31323421	F1079 31221211	F1112 23122333	F1145 42331312	F1178 12221113
F1014 42424243	F1047 32331322	F1080 12324232	F1113 24333442	F1146 32122423	F1179 23213233
F1015 42344431	F1048 42121112	F1081 31222111	F1114 12434443	F1147 42313213	F1180 23313223
F1016 22344343	F1049 24243442	F1082 32334211	F1115 34213321	F1148 13232242	F1181 23231332
F1017 32423122	F1050 23242312	F1083 13121212	F1116 42343423	F1149 33222421	F1182 42242443
F1018 21211123	F1051 43443331	F1084 11231122	F1117 42434242	F1150 13334443	F1183 11124242
F1019 43334242	F1052 24213313	F1085 44234233	F1118 12112421	F1151 23331223	F1184 42313132
F1020 23112112	F1053 44244313	F1086 44324431	F1119 23313421	F1152 31232332	F1185 33424342
F1021 42211211	F1054 33132223	F1087 23223133	F1120 13313422	F1153 33242113	F1186 42244423
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2001 Dodge Stratus

F0001-F1571, Part 2

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TNL

BUSINESS BRIEFS

Locks Co. Expands Business

Locks Co. Safe Depot in Atlanta has expanded into a full-line security distributor, functioning as a branch of Locks Co.'s main operation in Miami. Safe Depot opened in Atlanta last year as a specialty wholesaler handling safes and related equipment. "As the security market in the southeast expanded, we found more and more of a demand for overall security products, therefore, it made more sense for Locks Co. to offer its full line expertise to the area rather than limited ourselves to the safe market," explained Michael Dorn, who manages the Atlanta operation. The Atlanta branch is located at 999 Lees Mill Road, College Park, GA 30337, Phone (877) 723-3101, E-mail lefty1203@aol.com.

GunVault Names Vice President

GunVault has announced the promotion of Michelle Holmberg to Vice President of Sales and Marketing. Holmberg's responsibilities will involve overseeing sales, with an emphasis on law enforcement, customer service, marketing and advertising. Holmberg will also coordinate and support the joint venture between Daskocil Manufacturing Company and GunVault. A 4-year employee of GunVault, Holmberg has also served as the accounting/office manager and the national sales manager.

Maestro Access Controls in USA

After more than 5 years of selling in the International marketplace, Maestro Access Controls, Inc. has introduced its line of electromagnetic locking devices and proximity readers in the USA. The product range includes magnetic locks,

electric bolts, shear locks, gate locks and proximity readers utilizing unique technology. All products carry a five-year warranty and are UL Listed, CE Approved and ISO 9002 Certified. For more information, contact customer service at (866) 3-MAESTRO (3-623-7876) or visit them on the web at www.maestroaccess.com.

IR Commercial Security & Safety Announces New Sales Organization

To unify its brand offerings and provide enhanced total solutions and services to customers, IR Commercial Security & Safety has realigned its sales organization. The company has established sales offices, known as "IR Security & Safety Consultants", in 21 U.S. regions to provide technical and sales support to end users, architects and distribution partners. The SSC's are led by managers who are responsible for the success of all IR brands for their market area. They are also staffed by a sales manager and a sales team to support the IR brands, specification writers and technical specialists. IR's Commercial Security & Safety sector includes leading brands such as Schlage locks, Von Duprin exit devices, LCN door closers, Dor-O-Matic automatic doors, Steelcraft doors and Recognition Systems and Locknetics access-control products. For more information about IR Commercial Security & Safety visit their website at www.irsecurityandsafety.com.

Schuch Joins STI Sales Team

Patrick J. Schuch has joined the sales staff of Safety Technology International, Inc. Previously Schuch was VP of Sales for Richardson

Electronics and earlier was a sales manager for Ademco Distribution, responsible for area management in the Midwest.

Gil-Ray Tools New Phone Number

Gil-Ray Tools key cutter sharpening service of Bay City, MI had its area code changed to 989, for both telephone and fax service. Call Gil-Ray Tools from now on at (989) 892-6870.

Steadfast Collar from Secure Car Enterprises

Secure Car Enterprises is pleased to announce that it has purchased the rights to manufacture the Steadfast Collar. They also stock all remaining Steadfast ignition guard protectors and can supply replacement parts for the entire line. Anyone requesting information can contact Secure Car toll free at (800) 616-8338.

RCI Launches New Web Site



RCI has a brand new website where they stand firmly behind their new slogan; In or Out...They make it Easy! Easier than ever to navigate - just a few clicks will get you anywhere you want to go - and jam packed with useful tools and information for your access control and door hardware needs. Visitors will be able to access all information that would be provided when they call directly. It's almost like being open 24 hours a day. Now you can quickly access and download product information, installation

instructions, trouble shooting guides, cross references, price lists, FAQ's, links to industry sites, RCI contacts, distributor information and much more.

Add
www.rutherfordcontrols.com
to your favorites list.

Chamberlain Expands Its Professional Products Division

The Chamberlain Group, Inc. has expanded its Professional Products division to include Sentex Systems, as well as a new Custom Applications group. Chamberlain Professional Products formerly included only the company's well known LiftMaster Residential Garage Door Openers and Commercial Door Operators. LiftMaster is the #1 professionally installed garage opener brand in the world. Sentex Systems provides a complete line of access control, telephone entry and radio control products designed to secure, control and monitor property management.

Marks USA Acquires Assets of Almet, Inc.

Marks USA has acquired the tools and dies for the entire product line of locksets from the former Almet Inc. Almet had declared bankruptcy in February of last year and was liquidated in May. Initially, Marks intends to manufacture the Almet #1000 line of pressure cast tubular lever handle locksets in passage and privacy functions in various finishes. In addition, certain mortise lock trim will be produced and added to the Marks line of locksets. These additional product lines will enable Marks to expand its product line to include lower priced interior locksets for both commercial and residential markets. **TNI**

TheNationalLocksmith.com

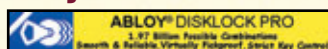
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A&B Safe Corporation



www.a-bsafecorp.com

Abloy® DiskLock Pro



info@abloy.ca

Adesco Safe Manufacturing Co.



www.adesco.com

Aiphone



www.aiphone.com

Dynalock Corp.



www.dynalock.com

Framon Manufacturing Co.



www.framon.com

Herbert L. Flake Company



www.hiflake.com

HPC, Inc.



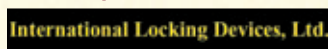
www.hpcworld.com

Indiana Cash Drawer Co.



www.icdpos.com

International Locking Devices, Ltd.



www.gatelock.com

WEB REVIEW

Indiana Cash Drawer Co.

<http://www.icdpos.com/>



Indiana Cash Drawer Co., offers a useful line of products for the many locksmiths who assist their clients with cash handling and related products.

The company offers both manual and electronic cash drawers, and a line of peripherals including printers, and money trays. The locking cash drawers offer a particularly good profit opportunity for the locksmith.

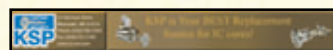
The web site gives an excellent overview of the product line, along with links to all the company's literature. This is great for those times when you want to show your customer graphics of the product. Print out the literature you need and you've got

instant sales sheets.

Online, you're able to apply for credit and dealer status, which makes beginning the relationship very simple. Tech tips also offer handy hints on using the products to their best advantage.

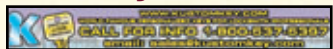


KSP



www.iccore.com

KustomKey



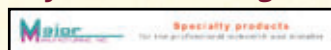
www.kustomkey.com

MAG Security



www.magsecurity.com

Major Manufacturing



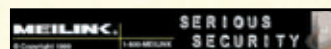
www.majormfg.com

McDonald DASH Locksmith Supply



www.mcdonaldsdash.com

Meilink



www.meilinksafe.com

Monaco Lock



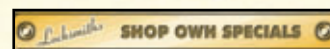
www.monacolock.com

National Auto Lock Service, Inc.



www.laserkey.com

Omaha Wholesale Hardware



www.omahawh.com

ROFU International Corp.



www.rofu.com

SecuraKey



www.securakey.com

Security Resources, Inc.



www.techtrainproductions.com

ShatterGard Security Window Film



www.shattergard.com

Sieveling Products Co.



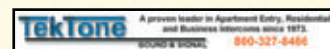
www.sievelingprodco.com

Tech-Train Productions



www.techtrainproductions.com

TekTone



www.tektone.net

Manufacturers and distributors... join the high profile locksmith web site and you'll be featured here!
Call Jeff Adair (ext. 15) or Debbie Schertzing (ext. 16) for details. (630) 837-2044

**Taking
Industry Products
for a**

TEST DRIVE!

DESCRIPTION:

The Magnetic Clip Remover (MCR) by McCoy Productions is a tool designed to remove automotive door lock retaining clips without removing the door panel.

CONTENTS:

The Magnetic Clip Remover kit includes:

- 1 - 20" x 5/16" diameter Stainless Steel Clip Removal Rod
- 1 - 8" x 1/4" diameter Stainless Steel Clip Removal Rod
- 1 - Rubber Coated Magnet
- 1 - Finished Wood Door Wedge
- 5 - Sheets of Round Black Plug Labels
- 5 - Horseshoe Door Clips
- Instruction Sheet

OPERATION:

The Magnetic Clip Remover can be used to remove both vertically and horizontally mounted door lock clips, on door locks that are separate from the door handle and use the common horseshoe style door clip.

To begin, open the door to be worked on and lower the window. Gently insert the wooden window wedge into the door, making enough room to access the door lock clip with the chosen Clip Removal Rod.

In corrosive environments, spray a small amount of lubricant on the back of the lock and lock retaining clip. Letting it soak for a minute or so will assure that the clip will come off easier.

To protect the vehicle's surface from scratches, wrap a clean shop rag around the magnet. Despite its rather small size, this magnet is extremely strong.

Gently place the magnet in rag on the outside door panel near the lock

MAGNETIC CLIP REMOVER TOOL BY MCCOY PRODUCTIONS



and over the area where the door lock retaining clip is.

Insert the chosen Clip Removal Rod into the door and hook the door lock retaining clip. Slide the clip off of the lock. In some vehicles, the lock retaining clip may include small barbs or tabs that make removal difficult. Be patient and use the Removal Rod to work the clip back and forth until the clip slides off of the lock.

Once the clip is completely off of the lock, the clip will jump to the magnet. It will hold the clip firmly to the side of the door cavity, preventing it from falling to the bottom of the door. Remove the lock and repair or replace.

Once complete, reinsert the lock and use the Clip Removal Rod to push the door lock retaining clip back into position and seated on the door lock. Should the lock retainer clip fall into the door, use the magnet to find the clip at the bottom of the door, and work it back up into position. If necessary, use the replacement clips that are provided.

BENEFITS:

The Magnetic Clip Remover makes it possible to remove and service or replace the door locks on many of today's vehicles, without the need for interior door panel and trim removal. Although quite simple in concept and design, this one tool can save not only a great deal of time and

aggravation, but also eliminates the risk of damaging interior door panel and trim components during panel removal.

RECOMMENDATIONS:

For all of its simplicity, McCoy Production's Magnetic Clip Remover is definitely one to add to the toolbox. The instructions are well thought out and presented. Several alternatives are shown for removing hard to access horizontal lock retainer clips.

This tool is ideal not only for removing locks that need to be serviced, but also for removing locks for code retrieval.

PRICE:

The Magnetic Clip Remover tool is \$85.00 which includes: two clip removal rods; one rubber coated earth magnet; one wood door wedge; 5 sheets of round black plug labels; five replacement horseshoe door clips and an instruction sheet.

For more information or to order The Magnetic Clip Remover contact:

Lockmasters Inc.

800-654-0637, (606) 885-6041

Fax: (606) 885-7093

E-mail: salesinfo@lockmasters.com

Web: www.lockmaster.com

Tech-Train Productions

800-356-0136, (850) 476-7197

Fax: (850) 476-7410

E-mail:

techtrain@techtrainproductions.com

Web: www.techtrainproductions.com

Circle number 331 on Rapid Reply.



IN SUMMARY:

DESCRIPTION: The Magnetic Clip Remover is designed to remove retaining clips without removing the door panel.

PRICE: \$85.00

COMMENTS: This tool saves a great deal of time and aggravation, and eliminates the risk of damaging interior door panel and trim components.

TEST DRIVE RESULTS: The Magnetic Clip Remover is definitely one to add to the toolbox.